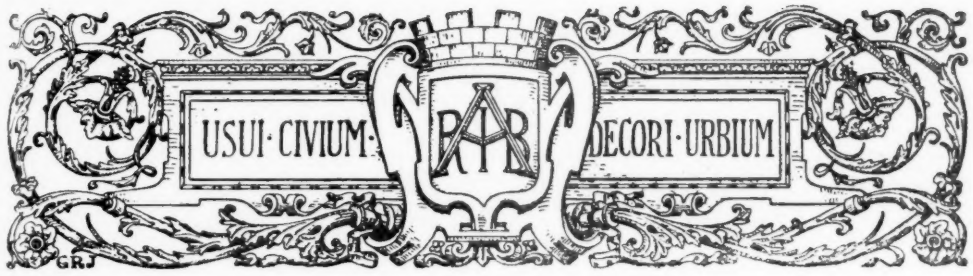


ADDRESS TO STUDENTS.

Delivered by the President, Mr. Reginald Blomfield, A.R.A., at the General Meeting of the Royal Institute, Monday, 3rd February 1913.

ON the last occasion when I had the honour of giving an address in these rooms I ended on that subject of perennial interest to all of us—the high calling of Architecture, the fascination of that art, its claims on our enthusiasm and unremitting study. But on the other hand it is not an art to be undertaken lightly, and I am going to offer you this evening a few suggestions on the spirit in which you should approach the work of your life. You may recollect the catalogue of good qualities which the older writers, borrowing from Vitruvius, used to insist upon as necessary to the architect. You may recall De L'Orme's fancy portrait of the good architect and the bad—the good architect a compendium of all the virtues, the bad a villain and a fool; pleasing but irrelevant fancies of no material bearing on the training of an architect, except in so far as they point to a high ideal of the art. But, gentlemen, I take it for granted that though you are taking up architecture as your livelihood, you will look upon the calling of an architect as something higher and nobler than a mere money-making business. I take it also that you have that enthusiasm which is the privilege and prerogative of students in all ages. Without it the labour of study becomes mere drudgery, sterile and unprofitable; with it you can face cheerfully the severe gymnastic of your training, for I need not conceal from you that to arrive at any mastery of architecture your training must be serious and prolonged. A mere smattering of knowledge is useless. You have to attain a technique that makes greater demands on the intellect than that of any other art. The standard of attainment steadily rises, and the work of the architect tends to become more and more specialised. The days are long past when some bold and skilful designer was both architect and engineer, and though you must in your training devote yourself to learning all about architecture that you can, you will probably find as you go on that the force of circumstances will tend to drive you into specialising in one direction or another.

That, however, you may well leave to the future. Your business at present is to fashion and complete your armour, to acquire a practical knowledge of the resources of your art, and the skill of eye and hand to interpret the visions of your imagination. For the architect, alone among artists, is brought up against the rude test of facts, and he must be full of resource and full of knowledge, with more than a nodding acquaintance with those technical sciences which materially affect the design and disposition of buildings. I need not dwell further upon the extent of the studies that you are bound to undertake: perhaps you are already painfully aware of it. Rather, I would call your attention to certain pitfalls that lie in wait for the impetuous and the unwary. Some of us, looking back on our own student days, can recollect wasted effort, because for want of guidance we sometimes wandered off into a cul-de-sac, which might have been avoided had the object of training been clearly realised. The curriculum was overloaded and bewildering, and too often degenerated into simple cram. Students of this

generation are more fortunate, because the ground has been cleared for them in this regard. In recent years the whole object of the Institute, in its educational reforms, has been to make the training of architects more intelligent and intelligible, and to direct the student to the understanding of the subject that he studies, rather than to the accumulation of scraps of knowledge.

In the first place, I would urge all students to make their ground good as far as it goes. In construction you are not merely to learn by heart the formulæ for the next examination; what is vital is to understand the why and the wherefore, to realise that the stresses and strains with which you wrestle, though expressed in technical terms, are not mere abstractions, but the result of the interaction of physical forces and the physical properties of materials. You should use your imagination as well as your intellect, and clothe the dreary figures with concrete instances. Though you should not rely on it without detailed verification, you should cultivate an instinct for construction—an extra sense, as it were, of what is sound and unsound in building, such as builders of the old school used often to possess in a very high degree. That instinct was the result of experience and experiment in building, of close observation of facts, of subconscious processes of thought, not less valuable because never set out in precise terms. You must recollect that an architect, in superintending his work, depends on his eye; and a quick and well-trained eye will detect defects of workmanship and construction at once that would be passed over by a loose observer, and it is essential that you should cultivate, from the first, quickness and accuracy of observation, and a sound, critical judgment of the quality of work. The architect should be, like Ulysses, "*πολύτροπος, πολύμητις,*" full of experience and resource, for he it is who is responsible, and, if difficulties occur, he is the man who has to find the way out.

In your studies in history I would offer the same advice. Beware of the text-book, with its categories, its schedules, its quite hypothetical classifications. You want to get at the facts; but you want them not as a collection of dried anatomical specimens, but in order to trace the relation of fact to fact, to understand their origin and development, to place them in touch with the large movements of civilisation, and if in your reading you have this constantly in view, you will in time penetrate through the screen of details to the broad principles that dominate them. Architecture will present itself to you as a living art of immemorial age and descent, and also of boundless possibilities in the future. Your readings in history will supplement your practical study of the art, because they will enable you to realise, however imperfectly, that behind the visible expression of architecture great forces have been and still are moving, and you will learn to think in terms of architecture instead of repeating mere parrot phrases of design. There have been produced in recent times, and by various writers, very good books on architecture, but there has also sprung into existence, not only in this country, but on the Continent, a violent eruption of books on architecture which are not books, but compilations of letterpress barely sufficient to float interminable collections of photographs, mere ha'porths of bread to an intolerable deal of sack. I incline to think that these industrious efforts have retarded the advance of architecture, because they have concentrated attention on its details to the neglect of its organic structure, and have produced in the public a passion for archæological sentiment and revivalism which is quite remote from any real appreciation of the art. My advice to you is not to rely on photographs, except as reminders of work you have seen and studied; you will learn more by the notes and measurements of actual work that you take yourself than by a whole roomful of photographs. I am glad to say that the excellent measured drawings submitted year after year for the Pugin Studentship prove that some of you are fully alive to this. Those who have been to all this pain and trouble will reap their reward in later life.

A word on literary style. My colleagues will pardon me, I hope, if I suggest that enthusiasm for the practice of our art has sometimes led to the neglect of literary studies. Now I am not urging you to add to your burdens the systematic study of literary style. To some extent that should have been done before you entered your technical training, but it will not do for you to ignore it completely. Occasions will arise in which it will be necessary to express yourself in clear straightforward and logical English. Failure to do so is due to two causes: confused thinking, and a certain unwillingness or inability to say a plain thing in a plain way. As a matter of self-training, you should learn to think your ideas through, and study in your leisure the masters of English prose, and I think you will find that the finest prose is like the finest architecture in its rhythm and restraint, and in its austere simplicity of statement.

Drawing as an instrument of thought and analysis is all-important. Some students draw too little, and others perhaps too much. The important thing is to be clear why you draw at all. (I am talking, of course, of the training of students in architecture, and not at this moment of drawing in general.) Now, the object with which an architect, in his actual practice, makes sketches and notes of a building is to carry away an accurate record of the facts of that building. He will put down all that is relevant, partly in sketches and measurements, partly, maybe, in writing; but he will not waste his time on anything that has no bearing on the subject. Your attitude when you are making drawings of buildings for the purposes of your training should be the same. You should make it your business to master the meaning, the purpose, the construction of the building, or detail of a building that you are studying. Sketches, however rough, provided that they are accurate, are of more value to you than the most slashing black-and-white or the most elegant water-colour. I have noted sometimes, in students' drawings, an evident anxiety to make the drawing itself attractive, and a fondness for details because they are picturesque and sketchable; but the architectural student should recollect that he is not out for the purposes of the painter. He may take his holiday and indulge himself in a landscape or the like, but the object of his labour should be the critical analysis of the building he is studying. Incidentally he will acquire in this way a quickness and accuracy in seizing and presenting architectural forms which will be invaluable to him in practice; and in all drawing, whether it be of these technical studies or the drawing that is common ground both to painter and architect, the object should be to grasp the essential characteristics of form and present them clearly and faithfully. I recollect once sketching a certain town-hall in company with a clever but somewhat impetuous draughtsman. When I was still labouring at the proportions of my building, my friend had completed a very taking sketch of the whole; unfortunately it was one bay short of the proper number.

And now we come to what is, after all, the end and object of your training, the development of your power of design: for I include in that your knowledge of construction and applied science, your knowledge of the architecture of the past, your power of draughtsmanship, as all of them subsidiary to the special function of the architect—Design. And here I would raise a question for the consideration of our schools, and that is, how far it is desirable, or even possible, to train students in a variety of styles. The training of our students a few years back proceeded on the assumption that it was both. It was held that an architect should have a smattering of all the known styles, in order that, when called upon to do so in practice, he could turn his hand to any. Text-books of styles were a burden to us; Gothic architecture was divided up into sacrosanct periods, which now appear in the guide-books in all the degraded abbreviations of "Dec." and "Perp."; and as for Neo-Classic, the result was what was genially described as "Free Renaissance," but was, in fact, an unlicensed orgy of sketch-book details, ill-understood and misapplied. I do not believe this is the way to train a student to design at all, because it disregards the first high principle of architecture, and indeed of all art—that Art

is the expression of personal emotion under conditions; and that emotion which expresses itself indifferently in half a dozen different manners must be a very thin affair. It does not convince the designer, and if it does not convince him it is not likely to convince anybody else. It cannot too often and too strongly be insisted on that Art is not a go-as-you-please affair, nor is it the work of anybody and everybody. It must be founded on strong individual preferences, definite idiosyncrasies, and a genuine aptitude for this particular mode of expression. However, this is more a matter for the masters, and to you I will only put it, that it is better to know one period or manner well than half a dozen badly.

What I would suggest to you students is that in design you must watch yourselves with such critical detachment as you can compass; try to discover, so far as you are able, which way your own idiosyncrasy lies, how you can most readily *and sincerely* express, in terms of architecture, your conception of the problems before you. You will find, it may be, that certain forms of Neo-Classic are more intelligible to you than other manners. If that is so, and subject to certain cautions which I shall offer you, you should study not only that particular manner itself, but all round it, so that you may learn its place in architecture, how it arose, what are its resources, what, in so far as you can reach to it, is its informing spirit.

The caution that I would offer you is not to be in a violent hurry to be original. Architecture is much too old and great an art to lend itself readily to originality. It is fenced in by conditions and limitations which you are bound to observe; and the originality you should seek for is not that of the inventor of new and unheard-of shapes and forms such as are exhibited by the Cubists and the acrobats of Art Nouveau, nor is it to be sought in brilliant caricatures of well-known features, which arrest the eye, it is true, but pay the penalty by going out of fashion in due course. The originality you should aim at is that of the great masters of the past, who used the forms and phrases that they found to hand, but applied them with a richness of invention and resource that doubled their possibilities. You should found yourself solidly on the best traditions of the past, whatever bold flights of invention you may risk in later years. In your student days your object must be to master thoroughly your technique, in order that the ventures of after-life may not fail for want of the knowledge of the facts and resources of architecture. I would urge you also not to study the fashion of the day too closely. Your object should not be immediate success and the quickest road to it. It may be that you will be driven to bow the knee in the House of Rimmon, but the least you can do is to nurse the faith that is in you, and endeavour to acquire a standard of judgment of your own. Your aims and ideals of architecture should be far beyond the narrow area of fashion, and there is only one road to that commanding position, and that is the patient and persistent study of the masterpieces of the art, and the firm conviction that architecture is an art to be taken seriously—not merely a business of which the sole object and criterion is immediate success.

I come back, then, to where I started—that the pursuit of architecture is not to be lightly undertaken. But I now add that those who take up the art in the right spirit will have their reward, I hope, in plentiful opportunities for the exercise of their skill; anyhow, in the enjoyment of one of the finest of the arts, and the art most intimately allied with the history of the human race.

This, gentlemen, ends my sermon. The criticism of your work has been entrusted to the very capable hands of Mr. Curtis Green, and I will now call on Mr. Green for his address.

REVIEW OF THE DESIGNS AND DRAWINGS SUBMITTED FOR THE INSTITUTE PRIZES AND STUDENTSHIPS 1912–1913.

By William Curtis Green [*F.*].

Read before the Royal Institute of British Architects, Monday, 3rd February 1913.

THERE are two sorts of criticism—constructive and destructive. I hope that what I have to say to you is the former. Likes and dislikes I shall try to avoid: they are often matters of temperament, or subject to change. I shall very likely fail to appreciate individual points of view, for though we are all travelling the same road we none of us view it from just the same plane or quite the same angle: the goal is no fixed point; we ascend one height to be faced by another, and if the vocation is ours there is no standing still. During the journey we shall receive some raps over the knuckles and many encouragements. The test of these competitions, as indeed of life, is one of character as well as of talent. The man of little skill but with the root of the matter in him will make rapid progress in the exercise of submitting his work for comparison with others more advanced than himself. The man of talent who proves for himself that there is plenty of room at the top, will learn also that there is no room for him to sit down.

The number of entries this year are unusually large, and the competition for most of the prizes exceedingly keen; it is impossible therefore to mention all the work submitted, or to show on the screen more than a tithe of the good things in the exhibition.

THE MEASURED DRAWINGS.

I propose to begin with the Measured Drawings, passing on to Design. There is some danger that young students in their eagerness to begin the preoccupation of their lives, *i.e.* design, may approach it insufficiently equipped. We must go back a long way in the history of architecture to find any justification for neglecting the study of old work, and we have a long way to travel forward before it will be safe to follow that early precedent and confine our attention to new. There is much to learn from our masters and fathers in architecture; hero-worship is one of the liveliest factors in our own development and that of our art, but we shall find as we grow older that the bases of our hero's achievements lie in his knowledge of what has been done by the masters of architecture. His mastery and resource are the outcome of no heaven-born originality, but a carefully cultivated gift of the spirit, an intensity of understanding acquired amongst the masterpieces of the art; if I may adapt the words of the Apostle Paul, he sees in all great architecture diversities of gifts but the same spirit.

For general advice on the method of studying old buildings I cannot do better than refer you to pages 1–5 of the Prizes and Studentships Pamphlet drawn up by the Records Committee, the members of which are, I know, very ready to help students in their work.

With regard to the work done on the building, I have two very simple suggestions to make: the first, to measure from a base or axial line, applies particularly to Gothic; the second is the use of sheets of scaled paper for all plottings on the spot. The exercise of setting out freehand to scale has several advantages: first, the result is more likely to be accurate, for in working to scale you tie and check as you go along, thus avoiding the horrible dilemma of finding on returning home that the dimensions will not work out; secondly, you are unconsciously forming a correct estimate of scale, and of the proportion of parts to the whole and to one another; thirdly, you are working in a way intelligible to other people who may have to use your notes; and, lastly, you will accustom yourself to the study of design unsupported by the drawing-board and

T-square. The work done on the spot is of more importance to you personally than the drawings done afterwards at home. For this reason considerable attention is given in awarding the Measured-Drawings Medal to the original survey.

I have dwelt on this aspect of the work because, although it has become a common saying that draughtsmanship is a means to an end, it is not so commonly realised that measuring is much more than an opportunity for the display of fine draughtsmanship. Fine draughtsmanship naturally follows in the series of enthusiasms which we all pass through; so long as drawings have to be made they must be of the best, the quality acts and reacts upon ourselves and upon the builders and craftsmen employed on the work to be done. As to method, do not be slovenly, learn the rules, go straight for the difficult parts; every one can learn to draw if he wishes to.

Fine draughtsmanship does not consist in the ruling of beautiful straight lines, but in an adequate presentation of the character and sentiment of the building. Thus it seems to me that the authors of the surveys of Southwell Minster and of Blenheim Palace, of the Manchester Town Hall and Cawston Church have achieved something; they have given the best of themselves, and are fuller men than before. They have analysed each a fine building, and, while giving due attention to all the difficulties of the delineation of mouldings, ornament, and sculpture, they have arrived at an understanding of the building studied and have made a valuable record.

Among such good work it is difficult to feel more than a natural inclination to one or the other; the prize has been awarded to Mr. H. C. Mason ("Pax") for his Blenheim drawings, an award with which no one will quarrel. The author has used a sensitive line, and consequently maintained the scale of the building; the shadows are indicated, but they are not sufficiently worked out by rule in lesser detail.

Mr. W. L. B. Leech ("Mitre"), who has received Honourable Mention for his wholly admirable set of drawings of the Chapter House and its vestibule, Southwell Minster, is a master of beautiful line used with extraordinary accuracy. The sheets are perhaps a little crowded, but are well arranged and form a complete monograph. In the drawing of Gothic mouldings and tracery care should be exercised in the use of compasses; Gothic is full of surprises.

Two students have measured Francis Goodwin's masterpiece at Manchester, the old Town Hall, now destroyed. The best of these, by Mr. Gordon Hemm ("X"), receives Honourable Mention, and is of value, and no doubt will be carefully preserved by the Manchester Corporation. The very complete survey of Cawston Church also receives Honourable Mention; the delicate and refined drawings of St. Mary Abchurch and the careful study of St. Vedast, Foster Lane, the latter threatened by the house-breaker, both show evidence on the part of their authors of enthusiasm and enjoyment in their work.

"Walworth" has disciplined himself by measuring Fishmongers' Hall. To him and to "Postman" I say, "Stick to it, and you must advance."

I must refer also to the measured drawings forming part of the work for which Mr. Butt has deservedly won the Arthur Cates Prize. The Strand front and vestibule of Somerset House have been, no doubt, measured before, but I do not recollect ever seeing drawings of so much feeling for the subject.

THE PUGIN STUDENTSHIP.

The work for the Pugin Studentship, the blue ribbon for architectural draughtsmanship, is up to the standard of all but a very few years, so far as my memory goes; that is to say, it is not stamped by anything of outstanding merit, although a high level of excellence is maintained. The coveted prize is won by Mr. Paterson for a nice collection of capable drawings; Henry VIII.'s Great Hall at Hampton Court is admirably shown in the $\frac{1}{2}$-inch scale drawings.

while the best of his sketches is that of the roof. We have learned to expect the drawing of a sedilia, a work of incredible labour, and are not disappointed, but surely all this class of work has been recorded now. Might not students turn their attention elsewhere to mediæval carpentry—roofs and floors, staircases and lanterns, for example?

Mr. Joseph Hill has worked hard, and shows a fine combination of qualities—thoroughness with some freedom and go which should carry him far. The Chapter House at Wells is the central piece; it is a question whether the rough pencil-sketches are of sufficient interest to justify their position on the sheets; his drawing deserves the Honourable Mention awarded it.

It would be hard to find a pleasanter example of sixteenth-century brickwork than Eastbury Manor House, Barking. Mr. Leathart has made a painstaking study of it, and it is to be hoped he will complete the survey. Mr. Leathart is more at home with the pencil than with the brush. In measuring a bay of the Angel Choir at Lincoln, Mr. Peake Anderson has concentrated himself on one of the most magnificent examples of thirteenth-century art in the country, and is not likely to regret the time so spent. In the distant future we are assured that no one will work for prizes and no one will work for fame. In the meantime students must realise that a certain amount of importance is attached to the recording of work that has not been too frequently measured and published in past years. Mr. Anderson's drawings are dated, and the later ones show a marked advance on his earlier work.

Mr. F. E. Howard, who also receives Honourable Mention, has the essential quality of accuracy; so far as one can judge, the drawings of screens at Norwich, Southwold, and Attleborough leave little to be desired. The range of subjects chosen is rather late: they have the merit of being of one period, or, some may think, the demerit of suggesting a limited outlook. I prefer to think the former, and I believe that the obvious faithfulness of Mr. Howard's work will have good fruit in the future. Mr. Lewis and Mr. Powell are, I imagine, beginners: they are comparable in so far as both show taste in the choice of subject and in the medium used.

THE OWEN-JONES STUDENTSHIP.

For finished draughtsmanship the drawings submitted this year for the Owen Jones surpass anything in the exhibition; so high is the standard and so equal the merit that of the four competitors one receives the prize and the remaining three Honourable Mention—a circumstance surely unique in the annals of the Institute. It is difficult to commend where all are so excellent. The drawings that appeal to me most personally are those of the decorative artist rather than of the architect. Mr. Huggill's drawings of the Sala Piccolomini, Siena, for purity of colour and accuracy of tone are irresistible, while the sheet of stained glass from Chartres is no less excellent. Comparing this student's presentation of the Lower Church at Assisi with that of Mr. Walter Keesey adjoining, one is compelled to the belief that Mr. Keesey's is the truer rendering. His are masterly drawings, and they are supported by a valuable key section of the whole church and a sheet of details. This student shows also two sheets of the use of coloured marbles from Rome, Florence, and Venice. Mr. Beaumont's studies of glass are superb, so also is the little drawing of the ceiling of the Villa Madama, Rome; some of the drawings are in oils. Mr. William Harvey's collection of Byzantine mosaics is a fine exercise in architectural colour decoration, and I think the terms of the Studentship are most fairly interpreted by awarding the prize to Mr. Harvey. This student has made a complete study of the Dome of the Rock, Jerusalem. He has chosen to treat it diagrammatically; a legitimate treatment, yet one sacrificing delicate modulations of tone as affected either by the technique of mosaic or by light playing upon rounded surfaces.

THE TITE PRIZE.

We now come to the object of our desire, Design. It is the considered policy of the Institute to encourage the study of pure design. It recognises that the student must have a close season if he is to develop the gift that is his. For a time he must be preserved from the problems that tax the utmost powers of the practising architect; the confined and awkward site, rights of light, building by-laws, out-of-the-way problems of construction—any or all of these the clever student is capable of facing, but he can do so at too great a cost. When he has mastered the elements of design and trained his eye and brain to seize upon the essential factors of a problem, these things are another matter. The common obstacles and pitfalls of practice will have no real terrors for him; they may, perhaps without his appreciating the fact, become his friends, for the architect from whose practice such things are banished might become as uninteresting and as dull as the man with a regular income rising annually to be crowned in due course with a comfortable pension. Those who bewail these impediments in the way can reflect that there have always been men to rise above them, men who have produced architecture all the time, and that the best way to help the student is to discourage him from embarking on private practice prematurely.

The subject for the Tite Prize this year is the Façade of a Royal Palace in a city, approached by a wide avenue, designed according to the methods of Palladio, Vignola, Wren, or Chambers. The prize was founded by Sir William Tite for the study of Italian architecture. The proviso as to the principles to be observed has always been a matter of concern to the student. When I entered this competition twelve years ago, I was then, as I am now, in love with that great master of architecture Bramante, and I borrowed and no doubt my design dimly reflected some of his peculiar attributes. I remember feeling some resentment at learning on an occasion similar to this that my work was ruled out of court by the judges. Some such feeling may possibly be aroused this year by the swing of the pendulum, resulting in a less strict interpretation of the conditions. Personally I think the interests of architecture are best served by following the spirit rather than the letter of the law. The method of Wren, for instance, is Italian by way of France, and all have their bases in antiquity. On the other hand, the man who breaks bounds is running risks, and it is wisest to accept the conditions as they stand and make the best of them.

The design by Mr. Cyril Farey ("Palladio") has won the prize and is by common consent the ablest in the room. It is a work of imagination, pleasantly original, without offending any of the canons of the law. The drawings are beautifully rendered, indeed the draughtsmanship and ornament on the $\frac{1}{2}$-inch scale detail give a French flavour which the general design does not possess. The central feature of the elevation is perhaps rather overpowering for the plan. The absence of meaningless applied pilasters is highly commendable and is a step in the right direction, and the long balconies are of great value. The detail drawing is a clean study, though the appeal is foreign to our temperament and affections.

I think if we were to make a general practice of defining the values of elevational drawings by casting the shades and shadows by the rules of sciography, the quality of our street architecture would improve. Those who do this will very likely be held up as shining examples of the Beaux Arts methods of training, even though they deny, as does Mr. Whitelaw, any sympathy for French methods or tendencies in design. A witty American has said that "it is much easier to find a new way of being bad than to master the old way of being good." We are all intensely concerned with the traditional way of doing things; for the present our concern is with the preparation for achievement. Some people fancy that Paris is the only home of the Classic Spirit; whereas the Classic Spirit in so far as it is the disinterested search for perfection

knows no boundaries. Other people like to think all the virtues originated in these islands; they forget that English Gothic and Renaissance, while essentially our own, came to us by way of France. It is some consolation to remember that as a nation we have a splendid digestion, and have no need to be afraid of a little French cooking.

The work of Mr. Bryan Watson ("Roma") receives honourable mention for a restrained and monumental design. He has hardly faced the conditions in the right spirit, for the building is to be four stories high, and by omitting the lighting of the top story, or concealing it behind the parapet, he has considerably simplified the difficulty which others have squarely faced. This design does not escape some of the defects of its very high qualities: it is somewhat heavy and just a little dull. The roof should be raised a few feet to counteract the foreshortening which every elevational drawing is subject to. A facility in design by means of perspective diagrams would save students many similar mistakes.

Next to "Roma" is hung an admirable design by "Strike Sure." It is very English in character and pleasantly reminiscent of one of the ablest schemes submitted in the competition for the London County Hall; it does not perhaps quite hang together, suggesting rather a side than a front elevation; possibly the whole of the centre should have been treated with detached columns. The design by "Juvenis" has an extraordinary family likeness to that of "Palladio"; I am tempted to say the voice is the voice of "Juvenis," but the hand is the hand of "Palladio"! If this is the case all honour to "Palladio" for a man of pluck and resource. The screening of the ground floor windows is a legitimate and pleasant device to give a monumental effect. A weakness of the design is felt in the treatment of the main cornice at the recesses at either end of the façade.

"Lorelli" has rather overdone the quality of breadth in the spacing of his bays, and marred its value by planting on coupled columns to bridge the voids.

"Green Seal" comes to grief in an otherwise dignified front in the fenestration, in the recess over the central entrance, good in itself but without visible means of support, and in the reckless introduction of ill-drawn figure sculpture, which would have been better omitted. The colouring of these plans was presumably done by candle-light.

"Circle's" otherwise careful design hardly realises the conception of a Royal Palace. The design by "Italy" is a scholarly piece of work; the method of showing it is rather unsympathetic and does not do justice to its good qualities. "Gregalah" needs to spend more time on composition; no amount of labour on the drawings can overcome primary defects. "Facilio's" design shows a lack of restraint; many features could be omitted with gain.

"Patrick" is on sound lines; the secondary divisions are a little mean and out of scale with the rest of the front. "Butterfly" gains variety at the expense of repose; the central divisions of the façade are not happy, the result again of insufficient study preparatory to beginning the finished drawings.

THE SOANE MEDALLION.

The Soane Medallion and Travelling Studentship is the most coveted of the Institute's prizes. The method and the medium are left to the individual; the work submitted, therefore, is some indication of movement, though one year may differ from another in the quality of its scholarship. The subject of this year's competition is a severe test of a man's capacity, particularly when, as must often be the case, he has only the evenings in which to tackle it. A terminal station, with the main frontage facing an open square or "place," and side frontages to wide roadways, twelve lines of rails and seven platforms are to be shown, and the building is to include all the varied requirements, excepting an hotel, of a great railway terminus; it is a big problem, and some men who have thought out the practical points do not appear to have had time or ability to spare for the architecture and *vice versa*: there is no precedent in this country for the student to turn to. King's Cross Station, the finest conception we have, is spoiled by its

wretched approach, and is, besides, behind the times in accommodation. We have, therefore, to look across the sea to Paris, Leipzig, and New York for the latest and most successful solution of a new problem. As architects we approach a new subject with open minds; for we know that architecture is a live thing with its roots in the needs of its day. We have to arrange the necessities of life so that they appear to have unconsciously found their proper place, so that the mind is neither distracted nor oppressed by them: it may even be that we shall lift up a little what we touch; that depends, not upon the time, but upon ourselves. The terminal railway station is the gate or one of the gates of the modern city, it is our particular problem and one of our opportunities. No one has seized upon the natural symbolism of two main features such as the great arches of King's Cross. For one of the first practical considerations of a railway station is that there shall be a division between those arriving and those departing; the second that the entrances and exits shall be conveniently arranged for horse and foot. The third inquiry is as to the right covering for the platforms. Minor considerations, such as receiving and despatching luggage, the position of the booking offices, waiting rooms, and the lesser but important conveniences of shops, refreshment rooms, cloak rooms, etc., arise, and fall into place on the solution of the larger issues; I shall not take up your time with these details. There are fourteen designs submitted and none of them have solved the entire problem. The winner of the prize, Mr. Whitelaw ("Solertia Ditat"), has taken the biggest view of the subject; instead of being embarrassed by the area of his paper, the sheets are too small for him. In speaking of his design I must preface my remarks by pointing out that it would be unwise for a student to presume on the unfinished state of these drawings another year. Mr. Whitelaw is fortunate, but he is an accomplished draughtsman—he has shown that on these walls on other occasions, even if evidence were lacking in these drawings, which is far from the case. The present work gives the impression that their author is living in the clouds, the ideal point of view for the architect, provided always that he retains enough ballast to come down to solid earth at the right times and in the right place. I hope Mr. Whitelaw will settle down for six months' serious study abroad and produce a splendid monograph on one great building.

This design exhibits great *architectonic* talent, and a certain rhythm that comes from the application of a set of units in design, and the connexion of geometric forms and proportions in which its author evidently delights. Personal likes and dislikes come in when we consider the flavour of a design: fortunately expression is not our strong point, yet to some extent we betray the mind that is in us. The poetical, the intellectual, the commonplace, the slovenly mind, leak through our reserve and find expression in form. Forgetting the broad bases of architecture we are unreasonably inclined to judge by the flavour and like and dislike at sight.

In their unfinished state Mr. Whitelaw's drawings are a little difficult to follow; for instance the approaches, while excellent in plan, are insufficiently explained in section: it would seem that direct access has been sacrificed to the monumental value of a fine podium 25 feet high, which cabs and foot passengers have to ascend; in the ideal city, the trains would leave and enter below the street level.

Mr. Whitelaw has accepted the popular view of a span roof over the whole station, but he has not, as in the case of Mr. Cable ("Registered Luggage"), been overwhelmed by it. The latest and most approved view in the United States appears to be to cover the platforms with low roofs open the entire length of the track. One man only, Mr. Bradshaw ("Rocket"), has been to the pains of discovering this. Mr. Whitelaw's concourse, as do many others, suffers architecturally from being under the same roof as the tracks, though he has made a feature of the three great arches marking the division.

Mr. Bradshaw ("Rocket") gets a well-earned Honourable Mention for his fine design; it seems to me to be marred only by one blemish: insufficient preliminary study—and that is a lesson it is only necessary to learn once. The errors are practical rather than æsthetic, and

could easily have been remedied; the cab approaches are inadequate and inconvenient. In a utilitarian work the practical person must be convinced that the architect has studied utility first. I have only one other contention with Mr. Bradshaw: it is a pity he did not make more of the concourse. As a composition some may think the central feature overpowering. I do not take that view, the eye is prepared for the great hall in the approaches, it is a suitably planned climax to a design of much ability pleasantly proportioned and refined in detail.

Two other competitors have treated the roofing of the platforms on low lines; both are designs of considerable merit. "Charge" has realised the character of a railway terminus, founding his conception on the great Verona gateways of San Michele's; the plan is unfortunately inadequate to the subject. The other, by "O.R.," shows an altogether delightful lay-out; the faults are again those of plan; he has evidently studied McKim's fine Pennsylvania station, New York.

Mr. Cable ("Registered Luggage") on the other hand, who receives Honourable Mention, has approached his task in the right way and has faithfully mastered all the practical factors of the problem; but having mastered them he has allowed his less robust architectural imagination to be submerged by the giant proportions of the utilitarian growth. The effect of this is more pronounced in the drawings than would actually be the case. The front is an admirably reserved and conscientious piece of design, it might be described as "moderate to excess"; the flanks are weak, they are too slight in character to satisfy the eye as an abutment to the tremendous roof which overshadows them. These drawings, particularly of the engineering details, are quite the best in the room.

"Queen's Knight" has manufactured difficulties in order to get his carriage entrances and exits into the centre of the plan; in other respects his design is well thought out.

"Peter Loo" sends an interesting composition founded on the supposition that the trains leave and enter at a high level; the levels, entrances, and exits are skilfully arranged. The plan is compact if a little tight, its parts are hardly sufficiently articulated. Æsthetically the Great Hall is somewhat narrow for its length to be a finely proportioned room.

The design by "City Gates" is admirable in plan: all the factors are duly weighed and rightly placed; the arcade of shops is a pleasant if not original feature. It is a question whether a circular domed hall is suitable to a railway station; such a form would bewilder passengers, who do not want to start a circular tour in the station.

"White Swan" has tackled his approaches well, but foot passengers would complain at the up-and-down-again method of approach. "Eclipse" shows careful work, but he has hardly come close enough to the problem: the façade might be that of a municipal building.

THE GRISSELL MEDAL.

The Grissell Medal is not awarded this year; no one has realised the idea of this studentship since Mr. Box sent in his interesting design for a great timber-roofed hall for a skating rink. If I had my time over again I should try to attain sufficient mathematics to master structural mechanics. Of the many lines of advance open to us, one is undoubtedly to know just what is wanted at a given place; we need to be able to move with freedom in the primary stages, and not to be dependent upon the engineer putting things right in the end. The Grissell Gold Medal is to encourage organic architectural design, and I am glad to know that the residue of the Jarvis Bequest is to be devoted to further this end.

THE SAXON SNELL PRIZE.

Three designs are submitted for this Prize. I had hoped to receive a report on them from Mr. Saxon Snell. The subject is a design for a sanatorium. Mr. Vincent Hooper gains the prize. Mr. L. G. Pearson's scheme is an extremely pleasantly proportioned block of building.

THE ESSAY MEDAL.

There remain only the Essays, which I have not read; I will conclude with a letter from Professor Lethaby, one of the judges:—

"The Essays were thirteen. We unanimously thought them a remarkably good lot, showing real work, thought, and interest. That recommended for first, entitled 'The Preservation of Ancient Monuments,' is most thorough, and forms a connected history from early times, with a very good list of books, &c. The essay on 'Railway Stations' is a wonderfully useful study of the development and present state of railway station design, again with a quite splendid bibliography. It is a study that all who have to design a big railway station would find most useful. Two or three others are entirely good and real pieces of work. The one point to make clear is that we want a *study* of a subject with *new work* on it, not mere notes on the 'Early English and Decorated Styles' from text-books. Five or six were truly contributions to knowledge. The competition is a success."

It will be remembered that this is the first year in the history of the Essay prize that Students have been encouraged to take a line of their own, choosing their own subject; in this way the Prize Essay may be a contribution to critical or abstract theory or to original research: in either case it is only awarded to work of high *literary* merit.

VOTE OF THANKS FOR THE FOREGOING ADDRESSES.

MR. FRANK DICKSEE, R.A. [*Hon. A.*]: It is my very pleasing task to propose a vote of thanks, both to the President and to Mr. Curtis Green, for their very interesting and illuminating addresses to the students. The students, I think, are particularly fortunate in having a President who is not a mere signpost, as it were, indicating the way, but a leader—and a great leader—who has trodden the path which he urges you all to follow. I am sure that his words will inspire you with a sense of the dignity of the calling that you have chosen. I am sure, also, that he has impressed upon you the great responsibility that will be yours in the tasks you will have to undertake. In some respects, perhaps, it may be fortunate for you that the branch of art that you practise is, as it were, deep rooted in exact science, because I think you are thereby spared certain incursions and inroads and hostile demonstrations that divers hangers-on and camp followers, as I may call them, of the arts of painting and sculpture are inflicting upon us at the present time. These would rob us of the heritage of the ages, strip us naked to the skin, and then submit us to various diseased productions of imbeciles and maniacs. You are fortunate in that you are spared all this. The only example I can remember of anything of the kind which has assailed you, is in the matter that the President referred to, viz. certain efforts of the exponents of "l'Art Nouveau." But I think I am right in saying that in this country they have done very little harm, although abroad, especially in France and in Germany, the evil that they have wrought is very manifest. To come at once to my point, if I may identify myself with the students and claim to be one of them, I am sure I voice their sentiments, and the sentiments of every one present, when I tender our thanks to you, Sir, and to Mr. Curtis Green, who, it seems to me, has given a most extraordinarily able criticism in his very interesting paper. We all followed his remarks with the greatest interest; and I, being—in spite of my grey hairs—perhaps the youngest student of architecture amongst you, and the most ignorant, followed those remarks with the greatest interest. I am very pleased to be informed that the students of the Royal Academy have made such an extremely good show in the competition, the results of which we see around these walls; and it is very gratifying to any member of the Academy to know that these schools are pronounced by such an excellent judgment as yours to be so efficient.

SIR LEWIS SELBY-BIGGE, K.C.B., Permanent Secretary of the Board of Education: I appear before you in the character of the best friend of the architectural profession, namely, the man who builds his own house—just as the amateur who makes his own will is the best friend of the lawyer—and I claim the privileges of a friend. If my education had been conducted under such kindly sympathetic and yet searching criticism as Mr. Curtis Green has given the students to-night, I venture to think it might have been more profitable, for I have never listened to a more admirable criticism of the work of students of any profession. He did say one rather unkind thing when he spoke of somebody being as dull and uninteresting as a man with a secured and regular income safely progressing towards a comfortable pension. That, gentlemen, is descriptive of the Civil Servant—and I belong to the Civil Service! I wish to second this

vote of thanks very heartily, not because I have any passion for lectures and addresses myself; though I may say I have attended more addresses in this hall in the course of the last twelve months than I have anywhere else in the course of the last three years, and with a great deal more satisfaction than any which I remember for a long time. I should not be so impertinent as to refer to what your President and Mr. Curtis Green have said upon the merits of the subjects which they were discussing. Your President's description of architecture as a living art of immemorial age and infinite possibilities I do not think could possibly be bettered. When he was speaking about originality, one thing occurred to me which I remember from my reading a very long time ago—because the uninteresting Civil Servant has no time to read anything at all!—and that was a very simple remark of Carlyle's, that the essence of originality lies not in novelty, but in sincerity. I cannot imagine that there is any art in which sincerity is more certain of making its mark, in which the sincere man is more certain of stamping his seal upon his product, than the art of architecture: and the vices of architecture, I imagine the President would agree with me in saying, are very largely vices of insincerity. It gives me special pleasure to second this vote of thanks, because the Board of Education, which I very unworthily represent, owe a special debt of gratitude to your President, Mr. Reginald Blomfield. For many years he has given us assistance in all sorts of capacities. He has been Examiner in our Art Examinations and in our National Competitions; he has been an active member of the Standing Committee of Advice for Education in Art since its constitution in 1911, and for the same period he has acted as Visitor for Architecture to the Royal College of Art, which, I am glad to see, has been not unworthily represented here to-night. He has also served us on numerous occasions when we have applied to him for special counsel and advice; and last but not least, he has consented to serve as a member of the Council of Advice for the Victoria and Albert Museum, which, I venture to think, is a position not unworthy of even his distinguished merit. Please do not go away with a wrong impression. Mr. Reginald Blomfield has rendered very great services to the Board of Education—and if Mr. Pease were here, I am sure he would say, only in better and more appropriate terms, what I am saying now, that we owe him a very considerable debt—but, at the same time, he is certainly not harnessed to the official chariot, nor is he the mouthpiece of the official oracle. You know your President well enough to feel quite sure that, in whatever capacity he is acting, he will say what he likes, when he likes, and as he likes, with the candour and independence which distinguish him! And as for harnessing, I do not think there is a man who could drive your President in a direction in which he does not think it right to go! Seriously, I think our relations to this body, representing the great and learned profession of architecture, are almost a model of the relations which we should wish to see existing between ourselves and other great and learned professions; they are those of quite independent counsel and advice. I think if this Institute thought that it had anything to say which was for the good of the Board of Education, or for the benefit of education in general, it would not have the least hesitation in saying it to us in the most emphatic terms it could command. Those relations of confidence and candour are the most valuable relations which can be established between an official authority and an independent body such as your own representing a great profession.

THE PRESIDENT: I thank the Meeting for the kind way in which they have received this motion, and particularly Mr. Frank Dicksee and Sir Lewis Selby-Bigge for the generous terms in which they have proposed the vote. I should like, before I go further, to associate myself with them and to offer Mr. Curtis Green my personal thanks for his criticism, which is one of the ablest I have ever heard in this room. It was a fine performance and full of suggestion to our students. Mr. Dicksee is a very distinguished artist, and a warm friend of architecture, a man who has always been ready to help us in this Institute so far as his opportunity lay, and I can assure him that we architects sympathise deeply with our brethren the painters and sculptors in the onslaughts to which they are exposed by people apparently fresh from the madhouse! I think all trained artists will find that they have a solid residuum of support which will win through in the end and release them from these extraordinary vagaries. Sir Lewis Selby-Bigge began by under-rating himself. He had the fine courage to say he built his own house, and no doubt that enables him to attach very great value to our calling as architects! He also made deprecatory remarks about his own education; but he omitted to inform you that he was a distinguished student at Winchester, and was a Fellow of his College at Oxford; he is one of that excellent type of Oxford man, a fine scholar, one who proves his capacity in after life for handling men and affairs. Gentlemen, we all here appreciate very much the way in which he handled this subject of architecture; he showed that we have, in one of the greatest of our Public Offices, a representative who really understands the problem of architecture a great deal more than he allows. I would commend especially to you the remark that he made, namely, that at the base of all fine architecture is sincerity. We thank him also for what he very frankly said, that the great Department which he represents is always ready to receive candid advice, in so far as it is possible for us to give it, on matters on which we really ought to be experts.

Mr. Curtis Green also briefly responded.

CORRESPONDENCE.

"Beaux-Arts" Courses.

University College, Gower Street: 31 *Jan.* 1913.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—The wording of the circular which has been sent out by the London "Beaux-Arts Committee" suggests that the scheme they are starting is something entirely new in London. May I be allowed to point out that such is not exactly the case. In October, 1911, a course of training in design for advanced students on the lines of the course in the Ecole des Beaux-Arts, Paris, was started at University College.

It is true that we did not call the Studio the "Atelier," and that we have not the assistance of eminent French architects; but on the other hand, our visitor is Dr. J. J. Burnet, A.R.S.A., who as a student passed with distinction through the complete course in Architecture at the Ecole des Beaux-Arts in Paris.

This year the course has been much interfered with by having to work in temporary quarters, owing to the pulling down of our old premises to make way for the new building for the School of Architecture of the University of London. That is now half built, and will be finished in June in readiness for the opening of next session in October.

F. M. SIMPSON [*F.*].

The New Delhi.

18 *East Dulwich Road, S.E.*: 28 *Jan.* 1913.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Among the readers of the JOURNAL there must be many who look forward to the "New Delhi" as the great architectural gift which the near future has in store for the world, and a majority surely will agree that in the planning and construction of what we trust will be among the fairest and most beautiful of cities Indian architectural tradition should be the guiding rule.

While the friends of architecture in this country will feel all confidence that good and wise advice will be given to the responsible Government Department by eminent members of this Institute, some of us feel a degree of uneasiness lest other than architectural considerations may have undue weight with those to whom such advice shall be tendered. We as architects are not concerned in any political aspect of the question, nevertheless we cannot but be influenced in the formation of our opinion on such a matter by a consideration of the effect upon the Indian mind of the introduction of a style at variance or out of harmony with native sentiment. In architectural matters, at least, it would appear inexpedient to obtrude unduly the Western ideal or to emphasise the power of the British Raj.

Lord Plymouth, a distinguished Hon. Fellow of the Institute, presiding at a lecture recently delivered by Mr. E. B. Havell, expressed the hope that buildings in the Renaissance style would not be superimposed on the native art in the New Delhi. Mr. Joseph King, M.P., in a pamphlet entitled "Empire and Craftsmanship," expresses the opinion that, if the Government House be Renaissance or Classical, native Princes will follow suit in the building of their own palaces, which would indeed be a sad happening.

Evidently these gentlemen, among others in high position, entertain to some extent the fears I have ventured to express, and Lord Plymouth has stated that his name will be added to a petition to be presented to the Secretary of State for India on the matter. As one born in Old Delhi, I trust that the Petition will receive the support of many who feel a genuine interest in the New, and in that case we may well hope that such an expression of opinion will receive due attention, and strengthen the hands of those who seek to keep alive the flame of an ancient architectural tradition.—I am, Sir, yours faithfully,—A. J. CLIFFORD EWEN [*Licentiate*].

The "Architectural Review," New Series.

The *Architectural Review*, now entering upon its thirty-third volume, appears in a new and greatly improved form with the January number, the pages having been considerably enlarged so as to facilitate the introduction of new methods of illustration and to allow of the more adequate representation of the wide field that the *Review* is intended to cover. All the old useful features are retained, and there are given in addition sixteen specially prepared full-page plates reproduced from photographs. It is announced that this is to be a regular feature and that a similar number of plates will appear in all future issues. The illustrations throughout are excellent; great pains have evidently been bestowed upon their selection and manner of presentment, and apparently no expense has been spared in their reproduction. Among the principal contents, apart from the illustrations, are "Some Oxford Details," by W. G. Newton; "Iford Manor and its Garden;" "Sanatoria for the Community," by various writers; and "Some Famous Buildings of Portugal," by Walter H. Godfrey. The frontispiece is from a clever etching by W. Walcot entitled "At the House of a Patrician." The *Review* in its new shape should be a great success, and credit is due to all concerned in its production.

Books Received.

The Mediæval Church Architecture of England. By Charles Herbert Moore. With 23 plates in half-tone and 149 illustrations in the text. 8o. New York and Lond. 1912. 15*s.* net. [Macmillan & Co. Ltd., St. Martin's Street, W.C.]

Structural Engineering. By A. W. Brightmore, D.Sc., M.Inst.C.E. With numerous diagrams. New and enlarged edition. 10*s* 6*d.* net. [Cassell & Co. Ltd.]

How to Estimate, being The Analysis of Builders' Prices: Giving full details of Estimating for every class of Building Work. By John T. Rea. Fourth Edition, revised and enlarged, with over 400 illustrations. 8o. Lond. 1913. 7*s.* 6*d.* net. [B. T. Batsford, 94 High Holborn.]

[Photo. H. B. Leighton.

FIG. 1.—GREENWICH HOSPITAL, KING CHARLES BLOCK: VIEW FROM RIVER.

GREENWICH HOSPITAL, KING CHARLES BLOCK: A NOTE ON SOME DIFFERENCES IN DETAIL.

By W. S. PURCHON [*A.*].

WHILE working at Greenwich Hospital with some students from the University of Sheffield it occurred to me that we might possibly be able to do some little investigation in connection with Mr. Gotch's Paper "The Burlington-Devonshire Collection of Drawings, with special reference to the Relations between Inigo Jones and John Webb" (JOURNAL R.I.B.A., Third Series, Vol. XVIII. No. 10).

On Mr. Gotch's suggestion, therefore, we examined the details of the various parts of the King Charles block, and a short illustrated account of the results of these investigations, which were very carefully carried out by two of the students, Mr. J. H. Odom and Mr. H. B. Leighton, may possibly not be entirely lacking in interest. Not, indeed, that they prove anything new, but rather that they may help to demonstrate more fully and clearly that which is already known.

Let us examine for a moment the general plan of the hospital [fig. 2]. Of the two blocks nearest the river, the King Charles block is the western one. The eastern half of this has usually been stated to have been built by Webb from the designs of Inigo Jones, but the evidence of the Burlington-Devonshire drawings leads one to believe that Webb was the designer. The western half of the river front of this block was built early in the eighteenth century on similar lines, probably by Wren; the western half of the southern front was built by Campbell, and the long central part of the west front was constructed from Stuart's designs in 1814.

The west and north fronts of the Queen Anne block, to the east of the King Charles block, were built by Wren on the lines of the latter block. The south front was built by Campbell, but most of the eastern half of this block is the work of Hawksmoor, and contains a curious three-sided arch form in the front to the court. It should be noted that while fig. 2 [page 212] shows the general lay-out of the buildings correctly, it is incorrect in several minor details; the colonnades, for instance, shown crossing the internal courts of the blocks nearest the river do not exist.*

We may now consider some of the external details of the King Charles block. It will be noted that so far as one can tell from a casual inspection the design and detail of the two halves of the north or river front of this block are practically the same, the only striking difference being that in the eastern half the pediment is sculptured, whereas there is no sculpture on the western half [see fig. 1]. Sculpture also appears in the pediment in the centre of the east front of this block, and in the pediment in the centre of the east side of its inner court, the latter being the only example of sculpture in the courts to the blocks nearest the river [see fig. 3, p. 213]. The pediments of the Queen Anne block are unsculptured. The panel on the architrave and frieze under the eastern

* It is stated on a plan in the Works Department office at Greenwich that Campbell completed the west and east portions of the Queen Anne block, that Ripley worked on the south part of this block in 1740, and that the south-west corner of the King Charles block was rebuilt by Stuart in 1769.

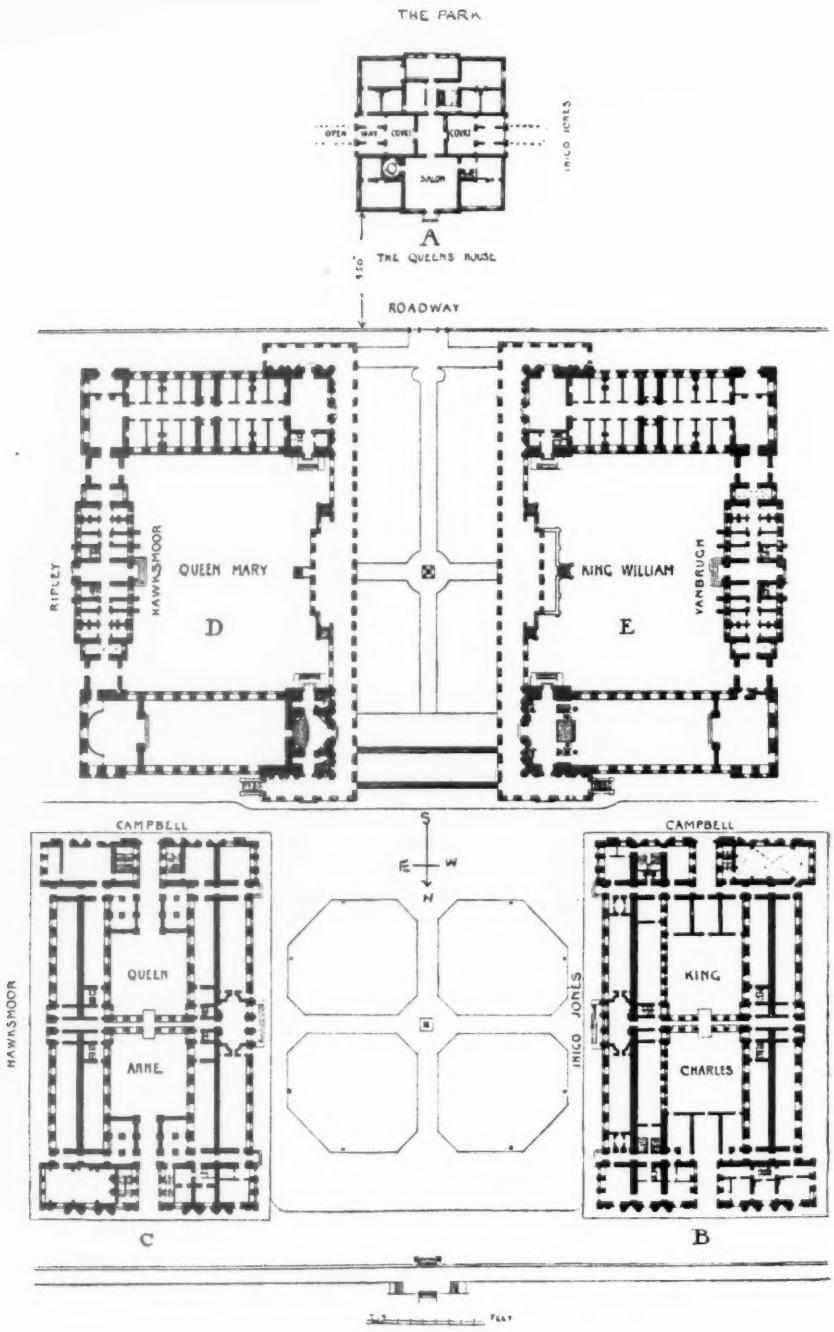


FIG. 2.—PLAN OF GREENWICH PALACE (AS EXISTING).

From Belcher and Macartney's *Later Renaissance Architecture in England*.

pediment of the river front of the King Charles block contains an inscription of considerable decorative value, but similar panels under the western pediment of this block, and under both the pediments on the river front of the Queen Anne block, lack inscriptions. The central part of the west side of the King Charles block is much later work by Stuart (1814), and obviously differs in detail from the other parts of this block, the architrave to the main entablature, for instance, being without enrichments. On a more careful examination, however, of the two halves of the river front of the King Charles block many other points of difference may be noted.

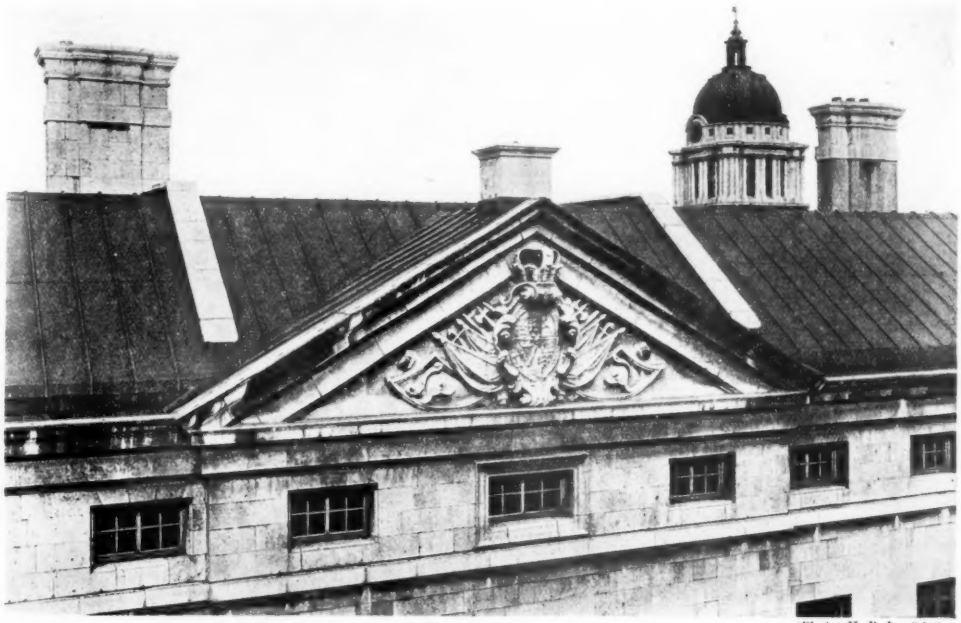


Photo. H. B. Leighton.

FIG. 3.—GREENWICH HOSPITAL, KING CHARLES BLOCK: SCULPTURED PEDIMENT ON EAST SIDE OF INNER COURT.

On the eastern half, for instance, it will be found that the enrichments on the mouldings of the main cornice are carefully spaced so that their centre lines agree [see fig. 10, p. 218]. This arrangement obtains on the three outer faces of the eastern half of the King Charles block, and on the whole of the south front.

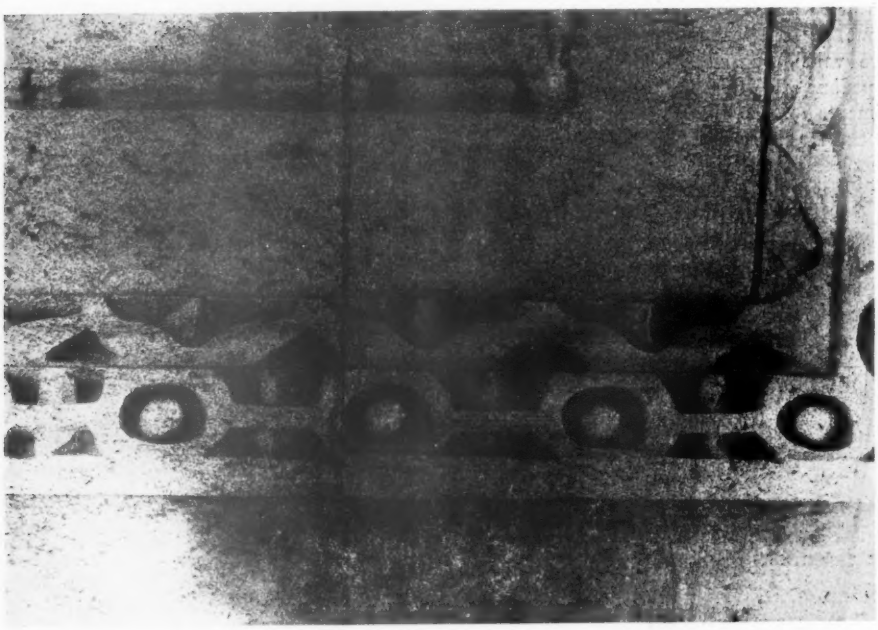
On the western half of the river front of this block these enrichments are not arranged on centre lines, and the same lack of care in centering may be noticed in the main cornice of the two wings on the west side of the block, though to a smaller extent in the south wing [see fig. 8, p. 216].

The details of some of the enrichments of the main cornice, and of the inscription panel on the architrave and frieze in the eastern half of this block, differ from those of the enrichments on the same features in the western half. The cyma reversa under the crowning moulding has ornament differing somewhat in form in the two halves of the block, and being much more spread out in the western half (10-inch centres as compared with $4\frac{3}{4}$-inch centres); the modillions in the eastern half are slightly different in front elevation from those in the western half, and on the sides of the modillions in the eastern half the volutes have flowers in the eyes and the remaining spaces filled with ornament, whereas these features are plain in the western half.*

Again, the ornament on the mouldings to the inscription panels is somewhat different in type in the two halves of the block, and while that in the east is arranged to $3\frac{1}{2}$-inch centres, that on the west is drawn out to 14-inch centres.

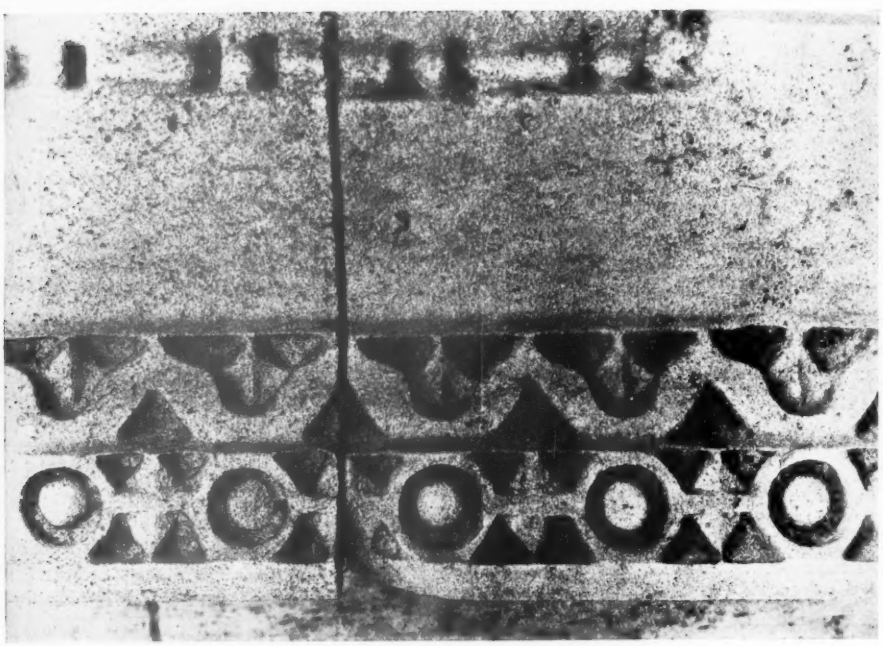
An examination of the capitals of the main order of the King Charles block reveals further differences, those of the eastern half having deeply-cut

* The ornament in the bottom moulding of the main cornice has four-petalled flowers in the south-west corner of the block, two-petalled flowers elsewhere.



[Photo. H. B. Leighton.

FIG. 5.—GREENWICH HOSPITAL, KING CHARLES BLOCK: DETAIL OF ARCHITRAVE TO ATTIC WINDOW IN WESTERN HALF OF RIVER FRONT.



[Photo. H. B. Leighton.

FIG. 4.—GREENWICH HOSPITAL, KING CHARLES BLOCK: DETAIL OF ARCHITRAVE TO ATTIC WINDOW IN EASTERN HALF OF RIVER FRONT.

Photo. H. B. Leighton.

FIG. 7.—GREENWICH HOSPITAL, KING CHARLES BLOCK: DETAIL OF MOULDING TO PANEL OVER WESTERN PEDIMENT ON RIVER FRONT.

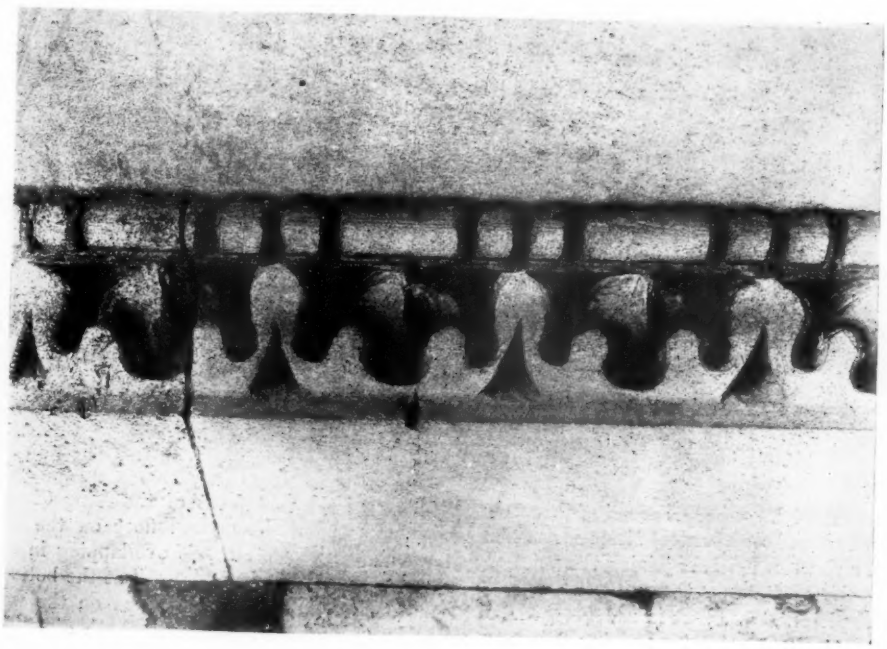


Photo. H. B. Leighton.

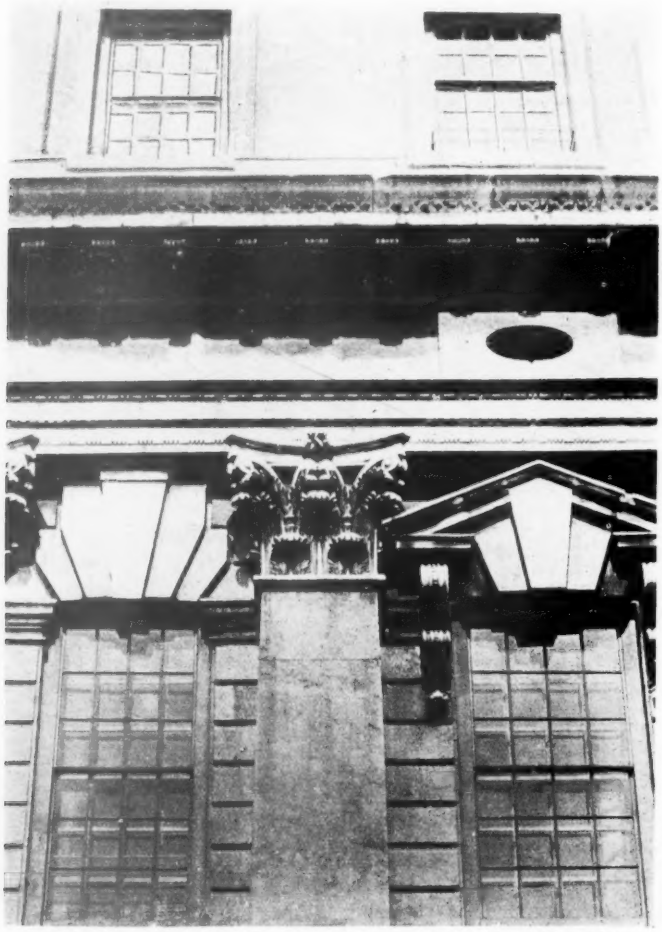
FIG. 6.—GREENWICH HOSPITAL, KING CHARLES BLOCK: DETAIL OF MOULDING TO PANEL OVER EASTERN PEDIMENT ON RIVER FRONT.

foliage, spiral grooves on the main stalks, and very little foliage on the upper part of the volutes, whereas those of the western half have foliage much less deeply cut, vertical grooves on the main stalks, and more foliage on the upper part of the volutes. In the western half all the stems of the main leaves are plain, whereas several of the capitals in the eastern half have leaf forms carved on the stems, and while the bars joining the pairs of volutes in the capitals on the western half are curved and pierced, these bars in the eastern half are, with one or two exceptions, plain.

Each of the capitals of the eastern part is constructed in one block, whereas in the other capitals there is a joint at the top of the upper tier of leaves.

Some of these differences are shown in figs. 8 and 9.

Differences may also be noted between the window consoles on the east front and on the end pavilions of the west front of the King Charles block. Those on the ground floor on the east front are carved with leaves overlapping in one direction only, no fruit, and a coil at the bottom, whereas those in a similar position on the west front have leaves overlapping in both directions alternately with fruit introduced, three buds in lieu



[Photo. H. B. Leighton.

FIG. 8.—GREENWICH HOSPITAL, KING CHARLES BLOCK: ENTABLATURE AND CAPITAL OF PILASTER IN NORTH WING OF WEST FRONT.

of the coil, and more elaborate ornament in the volutes on the sides. Similarly in the case of the consoles to the first-floor windows, those on the west front have their sides more completely filled with ornament and have richer foliage below.

There are differences, too, between the capitals to the pilasters framing the first-floor windows on the eastern half of the north front, and those in similar positions on the west half, the former having larger volutes with less foliage on the upper part, broader and more richly carved stalks between the leaves, and more sub-divisions to the main leaves.

If, again, one considers the attic story of the King Charles block, it will be found that the architraves to the windows differ in different parts, those to the earlier work in the eastern half having ornament which is less " drawn-out " than that on the others.*

[Photo. H. B. Leighton.

FIG. 9.—GREENWICH HOSPITAL, KING CHARLES BLOCK: CAPITAL OF COLUMN IN CENTRE OF EAST FRONT.

The ornament on the mouldings to the panels over the eastern pediment on the river front is, similarly, different from that on the panels over the

* It seems, however, that when the attic was erected over the south-west corner (probably by Hawksmoor) the detail of the window architrave was based on the earlier work See also footnote on p. 211 to the effect that this part was rebuilt by Stuart.

western pediment, as in other cases the later ornament being more "drawn-out" than the earlier.

The differences between these ornaments are clearly shown in figs. 4, 5, 6, and 7.

In the cornice of the attic story in the eastern half of this block the dentils are $2\frac{1}{4}$ inches wide and 1 inch apart, whereas in the western half they are $2\frac{1}{8}$ inches wide and $1\frac{1}{4}$ inches apart. The ornament in the cyma reversa below the crowning member of this cornice is spaced to $3\frac{1}{2}$-inch centres on the eastern half and $4\frac{1}{4}$-inch centres on the western half.

It is usually stated that this attic story, the order of which always strikes one as being too heavy for the work below, was designed by Wren. The differences of detail noted above bear out the inference which may reasonably be drawn from the Burlington-Devonshire drawings, that Webb designed the attic. It would seem that when the western part was added, probably under Wren's superintendence, the details were slightly modified.

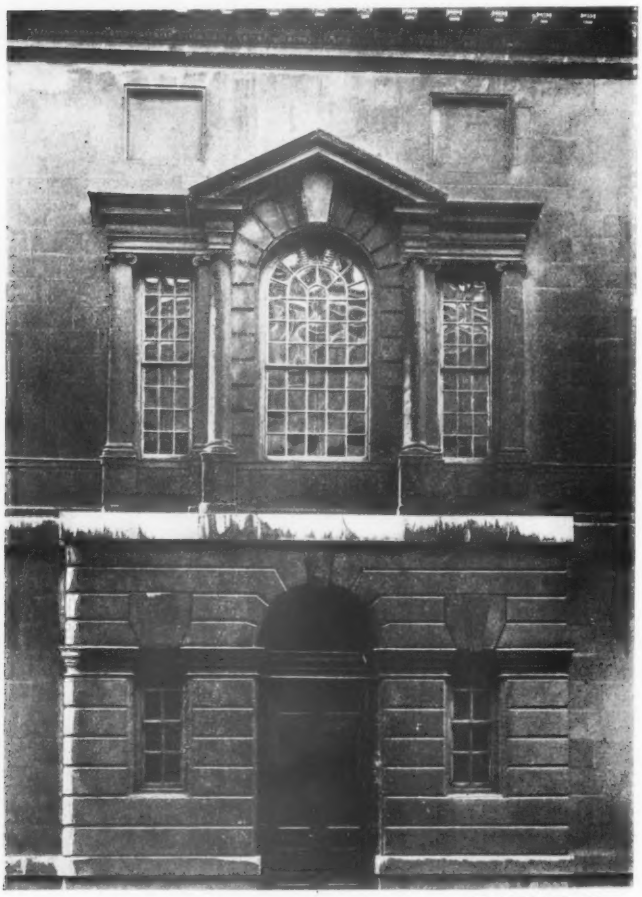


Photo. H. B. Leighton.

FIG. 10.—GREENWICH HOSPITAL, KING CHARLES BLOCK: CENTRAL PART OF EASTERN HALF OF SOUTH FRONT.

The southern fronts of the King Charles and Queen Anne blocks are attributed to Campbell; but while he probably carried out most of this work it must be remembered that complete drawings of the eastern half of the King Charles block are to be found in the Burlington-Devonshire Collection, and that the south front as carried out is very similar in the upper part to that shown on the drawings, the main difference being that small windows have been added below the main cornice.

On the ground floor, however, an arcade is shown on the drawings, whereas in the building there is a doorway with a small window on each side in the projecting bay. In the building this projecting bay is narrower, and the large window on each side of it more richly treated than on the drawing [see figs. 10 and 11].

It has already been noted that some of the detail of the western part of the south front follows that of the eastern half rather than that of the western part of the river front.

To sum up the general effect of these notes, it seems that, excluding the western part of the south front and the central part of the west front of the King Charles block:

(1) The details of the eastern and western halves of this block differ.

(2) The detail of the western (later) half is more "drawn-out" and less spirited than that of the eastern.

(3) The detail of the attic story (eastern half) is more on the lines of that of the work below,

and is different from the detail of the later work on the western half.

The main excuse for the publication of these notes is the hope that they may draw the attention of students to the fact that details which appear to be the same at a casual inspection may prove to be different on a closer examination. It does not suffice, therefore, in making a measured drawing of a building, even if that building is apparently the most symmetrical and regular work of Renaissance times, merely to measure the plan, one bay of the elevation, and those details which obviously differ, but it is necessary to check carefully the details on the various parts of the façades of the building to ascertain whether those which are apparently the same throughout are actually so or not. In doing this, not only will the student add considerably to the interest of his work, but he will make records of buildings which may prove extremely valuable. It is also very important that the drawings be set up to scale on the spot, for measured drawings set up at home from sketches made on the spot at some previous time are often completed with the aid of an imagination which would be far better employed in the preparation of original designs.

FIG. 11.—GREENWICH HOSPITAL, KING CHARLES BLOCK: SOUTH FRONT.
From Drawing in the Burlington-Devonshire Collection.

REVIEWS.

ARCHITECTURE, THE "MATRIX OF CIVILISATION."

Architecture: An Introduction to the History and Theory of the Art of Building. By Professor W. R. Lethaby. Sm. 8o. Lond. 1912. 1s. *net.* "*Home University Library of Modern Knowledge.*" [*Williams & Norgate.*]

Professor Lethaby describes his little book as "an introduction to the history and theory of the art of building"—which is an accurate description of the best and most illuminating essay that has been written on the subject. I suppose now almost every one knows that Professor Lethaby is a master of neat terse sayings which gather together and crystallise in form much thought, so rightly, that they strike one as inevitable. This little book has many: on the first page we have a typical one. "Architecture is the matrix of civilisation." The author says that his object in writing the book is "while outlining the larger facts of the history of architecture especially to bring out its origin and to call attention to the great contributions which from time to time have been made to its powers by divers schools"; and he adds, "a small book which does not permit of dealing with individual buildings might better suggest the onrush of perpetually changing art which while we try to grasp it has already put on another form." He rightly warns his readers against a mistake not uncommonly met with, and adds, "although it may be convenient to study the art of architecture historically, it must be remembered that archæology is not architecture: . . . archæology is history; architecture is the practical art of building, not only in the past, but now and in the future." "In architecture, more than anywhere, we are the slaves of names and categories, and so long as the whole field of past architectural experiment is presented to us accidentally, only under historical schedules, designing architecture is likely to be conceived as scholarship rather than as the adaptation of its accumulated powers to immediate needs." And again: "Great art is not a question of shapes and appearances which may be copied; it is fine response to noble requirements: a living architecture is always being hurled forward from change to change."

He defines architecture as building touched with emotion.

After this very important introductory chapter, the book goes on to describe the origins of architecture. "The art of building seems first to have gathered power and to have arrived at what we may call self-consciousness in the valleys of the Nile and of the Tigris . . . Possibly the art of Mesopotamia preceded that of Egypt; but by the Nile a large class of prehistoric works has been discovered which has as yet no parallel in Western Asia." "In the early days of Egypt . . . we shall best find the origins of architecture as a whole, and origins are of great importance for framing a theory of art."

A most interesting description follows of the development of the art of building from the wooden tent pole to the column, and from the discovery of the square form for a reed-and-mud hut to the perfected temple, through accidental development to an ordered end. "Nothing of true worth has ever been invented of malice prepense."

The growth of vaulted and arched construction is traced from the domed mud-hut, through crude sun-dried brickwork, to the true wedge-shaped voussoir arch and vault of stone. Our author tells of the Egyptian ideal of proportion being, like the Greek, "based on the feeling that an object to be perfect must have all its dimensions related according to some scheme of simple measurement which avoids fractional parts."

From Egypt we are taken to the much less known country of Babylonia, and then to Crete. "Egypt, Babylonia, and Crete were the three centres of early civilisation representing Africa, Asia, Europe, which from an early period, and for long, acted upon one another. "If the origins of art in Babylonia were as fully known as those in Egypt, the story of architecture might have to begin in Asia instead of Egypt." It seems that an arch was discovered at Nippur as early as 3800 B.C., and that "Babylonia was a land of temples when Egypt was a land of tombs."

We come to a very interesting résumé of recent discoveries of temples and palaces, with much that will be new to most readers, in which the growth of dome and vault construction is traced from very early times, as well as the early development of ornament.

From the first European style of architecture in the islands of the Ægean, "the art of the heroic age with which the Homeric poems deal, ..." the author takes us to Greece, whose art, he says, "is rather the resumption of the old tradition than a new departure." He gives us a brilliant description of the growth and development of Greek architecture (not without illuminating comment, especially on the question of proportions) in which he tells much of interest about Greek building, hitherto not sufficiently noticed by writers on Greek architecture. He points out, among other things, that the Greeks used hip-roofs, mullioned windows, spiral staircases, which they seem to have invented, marble doors turning on a "globular pivot which worked accurately in a cavity," and socketed drainpipes and traps for drainage work.

The last paragraph of this chapter is so important that I feel it must be quoted in full:—

"I have endeavoured to show how this 'incredible beauty' of Greek architecture was arrived at by continuous development from the most humble beginnings. The Greeks endeavoured to perfect a limited subject-matter and to create eternal types. This mysterious Greek architecture was but one customary way of doing buildings, after all; and recent researches have

shown that in origin the forms are barbaric and accidental—accidental, that is, in the sense that with other conditions they would have been different. There is little æsthetic mystery about the mud walls and wooden props which became a cella and peristyle, or in the overhanging eaves which became a cornice. The wonderful thing is the Greek spirit, and if we would share that we should concern ourselves with perfecting stock-brick walls, chimneys, and downpipes rather than designing pseudodipteral peristyles and Doric triglyphs —that is, as builders; as scholars, let us know all that may be known. An attempt to 'design' in architecture outside need and beyond custom is like inventing a strange alphabet which does not correspond to words and meanings. It is quite easy and quite futile. Forms are nothing in themselves; they are only envelopes of the spirit of architecture."

The story is carried on in the next chapter, with the effects of Eastern influences due to Alexander's conquests, and the "great new factor in the powers of European architecture," the use of the arch and the vault uniting architecture with engineering, and the effect of the change from the Classical idea of measured perfection to the big and strange. "It was on the wide foundations laid at this time that the mighty engineering of Rome was reared."

The theory that Roman art was derived from the Etruscans is swept away, "although they probably first adopted the Greek traditions and handed them on to the Romans." "At the time of Roman expansion, the current architecture having great demands made on it, could not throw off the old wrappings quickly enough; they were, in fact, burst by the new engineering spirit, but vestiges of the old features remained as superficial adornments."

An excellent general idea is given of Roman planning, construction, and decoration from the use of sun-dried bricks of early times. Timber-work was "highly developed in roof trusses of wide span. The principle of trussing seems to have been a Roman invention."

The art of planning was carried very far by Roman architects, "and was pursued as research into the possibilities of form and combination."

The soullessness of Roman decoration is pointed out and described as giving "a voice to matter as Greek had expressed mind"—while the Roman ideal of construction is the most perfect and generally applicable that may be imagined. "A typical Roman building was of one piece, an artificial monolith. . . . This is the method of nature, and it is an idea that modern architects would do well to consider. The great architectural question of to-day is how to build common damp-proof walls; simple solid floors; and above all, roofs better than the thin slate lids we are accustomed to. We need neither Greek nor Gothic, but an efficient method, and all our pre-occupations about 'styles' block the way, not only to high utility, but to high expression."

The next chapter takes us through early Christian and Byzantine architecture. In the fourth century, when the persecution of Christians ended, churches were built all over the Empire. Small plans are given, illustrating three types of church, the basilican, cruciform-Byzantine, and a round church. A charming description of the "most perfect existing early-Christian church," that of the Holy Nativity at Bethlehem, 327 A.D., ends with these words: "It is the Roman alphabet in a Christian sentence, it is modern and universal."

The various changes in provincial Roman work, particularly in the Eastern and African provinces, are briefly but clearly traced, and the very strong contemporary Egyptian influence on early-Christian art which modern research has revealed is described, together with influences from Asia Minor and the East which resulted in Byzantine architecture. "The simplest mark of the Byzantine style is to be found in the substitution of the domed and vaulted church for the wood-roofed basilica." It seems there were other schools besides that of Constantinople in Syria, Asia Minor, and Egypt, which are gradually being made known to us. "In the buildings of Syria and Asia Minor, several new methods and ideas were brought into architecture. Windows with arched heads are gathered in groups, and a circular light is at times associated with them. Two round-headed lights with a circular eye just above were often used in the gable end of a church."

The idea of grouping piers and columns dates back to Justinian's time, as shown by the recently discovered church at Sergiopolis, the interesting plan of which appears here. The origin of the Gothic cusp is traced from the scallop shell in the hollowed crown of niches in late Roman work, and the beginnings of ribbed vaulting to early buildings in Asia Minor.

The author acknowledges the debt of universal architecture to the early Christian and Byzantine builders, and tells how, "in addition to evolving types of churches, they carried far the exploration of domical construction, and made wonderful balanced compositions of vaults and domes over complex plans. They formed the belfry tower from the Pharos and fortification towers. We owe to them the idea of the vaulted basilican church, which, spreading westward over Europe, made our great vaulted cathedrals possible. They entirely recast the secondary forms of architecture: the column was taught to carry an arch, the capital was reconsidered as a bearing block and became a feature of extraordinary beauty. The art of building was made free from formulas, and architecture became an adventure in building once more."

The development of Persian and Arabian art and its influence on Europe is briefly told. "Generally, the Arabian may be said to be an Eastern offshoot of Byzantine art modified by Persian, Indian, and Chinese elements." And so we are led on to Romanesque art, "the new blood in architecture," as it is described, and we reach that with

which most of us are more familiar, and about which there is less that is new to say. But the way it is said is quite new and fresh and keenly interesting. We read: "Among the contributions made to architecture in the Romanesque period, the first place must be given to the perfecting of the cathedral plan, and, indeed, of its whole constructive type. The builders of after years had only to refine it to find themselves on the verge of Gothic. The problems of vaulting were worked out to the point when it became the controlling factor in the scheme. Ribbed vaulting, a great architectural power, was either invented by the Romanesque builders or developed from some Eastern source. The disposition of towers was tried in every possible combination, and the stone spire was evolved."

A chapter is given to the Saxon and Norman schools which opens with: "The study of both Saxon and Norman periods of Romanesque art in England has been neglected. If we had a comprehensive and fully illustrated account of our early art, it would seem that it is for us of extraordinary interest and had much of great beauty," and is followed by a description of the work of these schools which shows very considerable knowledge of what is left. It is necessarily brief, but it may possibly stir up some one to take up this matter. An unknown field of research in the architecture of our own country is very suggestive.

If the chapter on Romanesque art is interesting, that on "Gothic building in France—The Architecture of Energy" is an inspiring poem. Nothing better has been written about it. Short as it is, it tells as well as can be told what the essence of Gothic art is. There is no high-faluting; just a short, commonsensible analysis and description, but one that stirs to the very depths. As one reads the unsurpassed glories of French mediæval art glow again with fresh life and intensity. It is impossible to quote from it, one could only quote the whole chapter, which rises above the high level of the rest of the book.

No one loves and admires our English Gothic architecture more than I do, but I feel Professor Lethaby is right in not claiming that it even aimed as high, much less attained to the standard of the French. It certainly comes next, and is only surpassed by the very best examples of our neighbours' work. "The ruling temper of English Gothic at its high time is a spirit of sweetness which contrasts with the soaring grandeur of the French cathedrals. The theory of stonework construction at maximum stress was never perfectly grasped." He defends so ably the use of the old names, Early-English, Decorated, Perpendicular, which have been much criticised, that I think many of us who have partly dropped them will revert to them again—they are closely associated with very delightful early enthusiasms. I wonder whether he has done full justice to English perpendicular work, which is peculiarly our own; I feel it should have been added to the "special contributions which were made by the English school to the traditions of mediæval Gothic art."

The chapter on the Renaissance is a valuable one. The author tells of its almost inevitable birth in Italy, and says, "Perhaps if it had taken some different turning it might have been more obviously beneficial; as it was, there was not only eagerness to learn and to bring back forgotten powers to architecture, but there was eagerness as well to forget what the intervening time had gained. In looking back, art loses its life." He points out that the Renaissance has led to noble expression in individual arts where there was a second inspiration as well as that of antiquity, and how in all, "direct reference to nature comes in at the source. Such refreshment was excluded from the purview of the sanctioned architecture in the grand style"; and he truly adds, "It must, I think, be admitted by those who have in part understood the great primary styles, Greek or Gothic, that the Renaissance is a style of boredom. However beautiful single works may be, it tends to be blind, puffy, and big-wiggy." He points out how the very rules of the game make it to a certain extent unplayable since they apply to columnar temples, and not to buildings with enclosing walls, windows, floors, staircases, and roofs.

In the final chapter the modern position is reviewed. He points out how when the driving force of the Renaissance weakened, the various revivals began, Greek, Gothic, and then a revival of a revival, all of which have led to failure and disappointment. He then shortly examines what he calls "the two æsthetic superstitions" about beauty in architecture which stand in the way of our attaining it—the idea of a more or less definite rule of proportion, and of an abstract beauty, and he points out the mistake of both.

He suggests that when the series of Renaissance styles reach their end, we may expect that on the then existing basis, whether it may be sham Greek or sham Gothic, a movement will be imperceptibly entered on, which will transform the chaos into another order. Are we not already doing this? I seem to see signs of it in the best modern work, but possibly one is too near to judge.

Every word of this chapter should be read and digested; it is the result of much thought, and full of idea. Many will, I am sure, at first rebel against the author's advice; it will be said that it leaves no room for the artist. I certainly differ from him in thinking that hardness can be anything than a serious demerit under any circumstances, it is one of the bad faults of much modern work. But bearing in mind what he has said about art and beauty in the earlier part of the book, particularly in the spirit of Greek and Gothic art, and applying this to ourselves and the future as well as we can, I think his advice is sound, and that probably upon

some such lines as he suggests, the future of the art of architecture must be built, if it is to have a future.

CHARLES SPOONER [*F.*].

OUR CATHEDRAL CHURCHES.

English and Welsh Cathedrals. By Thomas Dinham Atkinson. With 20 *illustrations in colour by Walter Dexter, R.B.A.,* 20 *in monotone, and* 48 *plans.* 8*o. Lond.* 1912. 10*s.* 6*d. net.* [*Methuen & Co.,* 36 *Essex Street, Strand.*]

It is unusual in these days to find a fresh architectural book which savours neither of Ruskin nor of Baedeker; such, however, is Mr. Atkinson's *English and Welsh Cathedrals*. The book describes thirty-seven churches in 350 pages, and, of course, only pretends to put the leading facts of their history in a concise and handy form, and this it does most admirably.

There is a short well-written introductory chapter, in which a good deal of stress is laid upon the differences between the secular and the regular churches, and the cathedrals are described in four groups, "the Canons' Churches, the Monks' Churches, the Foundations of Henry VIII., and the New Sees." This is not absolutely logical, since for architectural purposes the Augustinian Canons were practically monks and yet their church at Carlisle is described among the "Canon's Churches" and those at Oxford and Bristol among the "foundations of Henry VIII." On the other hand, the Benedictine Churches of Gloucester, Chester, and Peterborough are classified as foundations of Henry VIII., while that of St. Albans, as well as the Augustinian Church of Southwark and the "Canons' Churches" of Manchester, Ripon, and Southwell are described as the Cathedrals of "New Sees."

There seem to be remarkably few slips in the book, but the presbytery vault at St. Albans must be earlier than the date assigned to it (1420) since the original paintings can be traced underneath the eagles and lambs with which Abbot Wheathampstead caused it to be redecorated. Again, though we are told part of the story of the central tower at Wells, we are not by any means told the whole of it, but then one does not expect to find unlimited information in a book of this size.

The author is to be commended for his discretion in dealing with the modern alterations and restorations of our cathedrals. What he does say about these is sound and temperate; on the one hand he makes no wild statements to the effect that the buildings have ceased to be ancient monuments, that they have lost all beauty and interest in the process they have undergone and so forth; on the other hand he does not "drop into poetry" or tell us in reverberating language that amongst the many *admiranda* of their elegant interiors are the *instrumenta* produced in the *ateliers* of Messrs. Pope and Chappell. It is refreshing, however, to observe that his righteous wrath is kindled when he tells his readers of the deplorable fate of St. Albans.

The illustrations are hardly up to the mark. The plans are clearly drawn but would have been more instructive if they had all been reproduced to the same scale. Of the water-colour drawings those of York and Wells are good, but it has not been the privilege of many people to have seen Lincoln Minster with a rose-pink Chapter-house and lavender-coloured roofs.

CHARLES A. NICHOLSON [*F.*].

FIREPLACES.

The English Fireplace: A History of the Development of the Chimney, Chimney-piece, and Firegrate, with their Accessories, from the Earliest Times to the Beginning of the Nineteenth Century. By L. A. Shuffrey. Illustrated by 130 *collotype plates from photographs chiefly by W. Galsworthy Davie, and many other illustrations. Sm.* 4*o. Lond.* 1912. 21*s. net.* [*B. T. Batsford.*]

Despite the large output in recent years of works on architecture, and on particular features of buildings, the fireplace has had to wait for adequate illustration till the issue of Mr. Shuffrey's handsome volume. And yet the subject is a very important one, since the hearth is still metaphorically, as it once was literally, the centre and focus of the home.

It is uncertain in what age man first learnt to kindle a fire in order to cook his meat or warm his body, but he must very soon have found some sort of screen necessary to protect it from the wind, and from this to a roof is but a short step; hence the circular form of all primitive huts. This form still survives in the wigwam of the North American Indian and the iglos of the Eskimo—the latter warmed by a blubber lamp. Another interesting survival of the primitive hearth and reredos is given by the author (fig. 10) from the Shetland Islands, where they seem to be still in use.

The Middle Ages saw the evolution of the fireplace from this primitive open hearth to the recessed form, differing only in detail from that of to-day; and this section of the book is certainly the best part of it and could hardly be improved upon, the illustrations being particularly good and apposite. In the course of it the author makes the interesting suggestion that the shelves or corbels often found on either side of the lintels of hooded fireplaces were intended to counteract the thrust of the straight arches—an explanation more in accordance with general principle of Mediæval architecture, that changes of form were always made for practical reasons, than the generally accepted one that these shelves were intended to hold lights, for which purpose they are ill-adapted. He seems, however, rather to have lost sight of this principle in his account of the change from hooded to recessed fireplaces, the fact being that it is impossible to construct a purely hooded fireplace which will not smoke dismally. This smoke diffi-

culty—at first little regarded by our ancestors, who, indeed, professed to regard wood smoke as a prophylactic—must yet, on the introduction of glass windows and other devices for keeping out the cold, have been a very real nuisance; hence the gradual setting back of the hearth into the wall till the hood became superfluous.

The sections devoted to Renaissance and Latin work are not quite so good; the former, in particular, seems rather overweighted by the number of illustrations—many of them almost duplicates—and some incoherence in their arrangement. They are, however, so good in themselves that it were ungracious to complain of this liberality.

We have ever as a nation been peculiarly open to foreign influence in art, and were particularly so in the sixteenth and seventeenth centuries, and it would be an interesting exercise for the student to try and trace this influence in the examples here given. Some were probably imported ready made—as, for instance, the lower part of that at Plas Maur (fig. 93), and probably those from Old Charlton (Plates XV. and LXIII.)—from the Low Countries.

At Bucklebury is a typical François I. example (fig. 95), and French also is that at Upper Swell (Plate XXVI.). The Bolsover Castle mantel (Plate XXVII.) is Italian, and probably also that in the dining-room at Old Charlton (Plate LXXVIII.). Many of the fine eighteenth-century marble mantels to be found in this country were made to order in Italy, just as many of the contemporary mural monuments in our churches were.

French Louis XV. mantels were also imported, but they were generally modified in proportion to suit our higher and narrower fireplaces.

Among the things which might be more adequately treated if a second edition were called for is the evolution of the coal-fire grate, of which little is said in the present volume. Owing to the fact that till the end of the seventeenth century wood was still used as fuel by the wealthy, except in the North, there are very few good examples before that date, the Holyrood ones being, perhaps, the sole exceptions. The example at Weald Hall (fig. 150), called Jacobean, is a typical eighteenth-century basket with earlier dogs, and the two baskets at Penshurst (Plates LXVIII. and LXIX.) are not earlier than 1700. A fine Queen Anne grate is to be found at Blenheim, and from that time an unbroken sequence can be traced down to the nineteenth century.

It is said that this book is the outcome of ten years' work, and it is difficult to realise the amount of patient research which must have gone to the making of it. Mr. Shuffrey and his coadjutor have not (except in very rare instances) been content with second-hand examples, and the amount of ground covered by them from the Shetlands to South Cornwall must have been enormous.

C. E. Sayer [*A.*].

A BUILDING TEXT-BOOK.

Building Construction (Advanced Course). Seventh Edition. By Charles F. Mitchell. 8o. Lond. 1912. *6s. net.* [*B. T. Batsford, 94 High Holborn.*]

Mr. Mitchell's book on Building Construction is already well known to the profession, and its popularity and usefulness is proved by the fact that a seventh edition has been required.

A comparison of the new edition with the fifth edition shows that much of the work has been rewritten, and a considerable amount of new information is included. The chapters on columns and stancheons and girders have been considerably enlarged, while the chapter on reinforced concrete is practically new, and brings the work right up to date.

It is a matter for regret that some of the information which the volume contains is given in such a form that the average architect will not be able to make much practical use of it. The tables giving the chemical analyses of various building materials are no doubt useful and instructive to the chemist, for he will recognise the *properties* which the chemical constituents imply. The architect, however, has usually only a limited knowledge of chemistry, and he has neither the time nor the means at his disposal for making a chemical analysis or testing samples of materials which he proposes to use. Undigested facts such as these should be excluded and in their place a great deal of information might be given in such a form that it could be applied to practice by those for whom the book is ostensibly written.

The supervision of builders' work is one of the most responsible functions which the architect is called upon to perform; yet where can he find a text-book that deals with the thousand and one *defects* to which builders' work and materials are liable, setting forth the symptoms that should put the architect on his inquiry, and indicating the causes and the remedies and precautions he should adopt to prevent or cure them? Where would the medical student be if the only available books were treatises on anatomy, while works on the symptoms, treatment, and cure of disease were non-existent? A chapter on "Defects in building, their cause and cure" would be invaluable.

There should also be a chapter devoted to "Tricks of the trade," or "How *not* to build"; pointing out those all too common substitutions of inferior materials and workmanship which the unscrupulous will sometimes attempt to pass off for what is usually specified and which are so liable to go undetected by the inexperienced. The student should be instructed in "what to look for" when he is called upon to supervise builders' work, instead of being left to glean this invaluable knowledge by sad personal experience. It is suggested that this point of view might be given more consideration in future editions.

It is evident that the author and publisher have spared no time or trouble in their task, and the book is one which is worthy of a place on the bookshelf of every architect.—A. R. CONDER [*A.*].

SUFFOLK CHURCHES.

The County Churches of Suffolk. By T. H. Bryant. 8o. Lond. 1912. *2 vols. Price 5s., or 3s. each separately.* [*George Allen & Co., 44-45 Rathbone Place, W.*]

The series of volumes upon the County Churches of England now being published by Messrs. Allen & Co. should appeal to a large field of readers, for up to the present time the only available sources of information have been the large Kelly directories, which are cumbrous and beyond the reach of most students, or the various county guides, in which, too often, the most interesting churches are left unmentioned, if outside the itinerary of the author.

The publishers have already issued volumes dealing with the churches of Notts, Surrey, Cambridgeshire and Norfolk, containing short, clear, and concise accounts of the fabrics and their more interesting fittings and adornments, rood and parclose screens, stalls, pulpits, wall-paintings, old stained glass and brasses, and the excellent standard attained in these volumes has been well maintained by Mr. T. H. Bryant in the two volumes that he has compiled upon the Suffolk churches, which give a description of every ancient church in that county, no small undertaking when we find that there are no less than 533 to deal with.

The work is in two volumes, Western and Eastern divisions respectively, and the churches are described alphabetically in the twenty-nine Deanery divisions, prefaced by a well written introductory chapter which lucidly deals with the ecclesiastical history of the county. Mr. Bryant notes that Suffolk was not Christianised until A.D. 630, when the Burgundian priest Felix settled in the county; but so great was the success of his mission and the enthusiasm of the people that before A.D. 1100 no fewer than 398 churches existed, representing roughly a church for every fifty inhabitants, and at that time Suffolk surpassed all the other counties in this respect.

The actual fabrics erected by such an enthusiastic people are well worth careful study, and it is to be doubted if any other district can vie in its church work with East Anglia. Especially is this the case in the fifteenth and the first quarter of the sixteenth century, when the rapid increase of the population, due to immigration from the Low Countries and elsewhere, and the prosperous cloth weaving industry, led to founding new and rebuilding many existing churches upon a magnificent scale. This is well exemplified in the churches of St. James and St. Mary at Bury St. Edmunds, the latter over 200 feet long; the churches at Long Melford, Lavenham, and many others noted by Mr. Bryant, too numerous to mention here. The western tower of Lavenham Church is a notable example of the great size attained in some of this later work. It is probably the largest in plan in England, at the summit being roughly thirty-six feet square, spreading out with its beautiful angle buttresses at the base to 57 feet on plan, and although never finished its height is 140 feet.

Mr. Bryant writes instructively upon the materials used. The earlier churches are mainly constructed with rubble walling, flints or beach pebbles being used for this purpose with Roman bricks or tiles worked in. Building stone there was none, all had to be brought in, some from Caen, other from Barnack or elsewhere, in any case by a long and in those days risky passage by sea, so that stone was used lovingly and the utmost detail wrought out of it. At the beginning of the fifteenth century the practice of facing the churches with dressed or squared flints came into vogue, arranged in panels formed with stone dressings, and this method when well done was practically everlasting. Much of this work is most admirable in its design and execution, for instance, the clerestories of Coddenham, Saxmundham, and Earl Stonham Churches, and the porches at Halesworth, Mendlesham, Blythford and Southwold. The smaller village churches were probably thatched with reeds, and this form of roofing still survives in about twenty churches.

The later and more important buildings have leaded roofs, and, when the naves are clerestoried, often with parapets above, but it may be questioned whether this is artistically better in effect than the simple, boldly-projecting overhang of the leaden eaves, which give a deep band of shadow, more effective than the somewhat monotonous range of battlement and pinnacle, as seen at Blythburgh and Southwold. Structurally, when the wood framing of roofs is of the hammer-beam type, the parapet is a mistake and more rarely used.

The detailed descriptions of each church as given by Mr. Bryant are very much to the point, and as far as our observation extends are mainly correct. We note, however, that the west tower of Long Melford is stated to have been built in 1711, but this Georgian tower was replaced some years ago by the modern Gothic tower, which is shown in one of the photographic illustrations.

The author has done well to adhere to the old terms, Norman, Early English, Decorated and Perpendicular, in noting the buildings and details.

It would have been instructive if a few typical ground plans, indicating the progression from the simple early unaisled churches to the splendid planning of the later churches, could have been included, and a map of the Deanery divisions, and a note of the nearest railway station to each church, would have added to the utility of the book. These, however, are very minor defects, and the student has every reason to be thankful to Mr. Bryant for the care and research which he has devoted to these very handy volumes.

W. G. HORSEMAN, *Licentiate.*

9 Conduit Street, London, W., *8th February* 1913.

CHRONICLE.

The Prizes and Studentships 1912–13.

The Annual Exhibition of Designs and Drawings submitted for the Institute Prizes and Studentships was held at the R.I.B.A. Galleries, 9 Conduit Street, and was open to the public from Tuesday 21st January, to Monday 3rd February. The number of competitors was 92, which, as the following table shows, is considerably above the average for the preceding ten years :—

Year	1903	'04	'05	'06	'07	'08	'09	'10	'11	'12
Competitors	79	69	73	80	87	61	71	70	64	61

The Exhibition was visited by over 1,400 persons.

The meeting last Monday for the Annual Addresses to Students and the Presentation of Prizes was very largely attended, the special guests of the Council including Sir Lewis Selby-Bigge, K.C.B., Permanent Secretary of the Board of Education, Sir W. Goscombe John, R.A. [*Hon. A.*], Sir George Frampton, R.A. [*Hon. A.*], Mr. Frank Dicksee, R.A. [*Hon. A.*], Sir Henry A. Miers, F.R.S., Principal of the University of London, Professor E. S. Prior, F.S.A. [*F.*], Mr. Goodhue, of the firm of Cram, Goodhue & Ferguson (Boston, Mass.), and Mr. Evelyn Shaw, of the British School at Rome. Past Presidents were represented by Sir Aston Webb, C.B., C.V.O., R.A., and Mr. Leonard Stokes.

The preliminary business of the meeting included an announcement by Mr. Guy Dawber that the Council had nominated Mr. Reginald Blomfield, A.R.A., for this year's Royal Gold Medal, the nomination being based on his executed works as an architect and his distinguished contributions to the literature of architecture. The enthusiastic applause which greeted the announcement left no doubt as to the popularity of the Council's selection.

Mr. Curtis Green's Review of the Students' Work was illustrated by lantern slides prepared from the drawings themselves, some forty or more strainers being shown in this way. The innovation—for this is the first time the experiment has been tried—added much to the interest and enjoyment of the proceedings ; the audience were able to follow the critic's points with intelligence, and to the students themselves the value of the criticism was enormously enhanced.

State-Aided Art Training.

The Times of the 4th inst. publishes in its Educational Supplement a letter from the President, Mr. Reginald Blomfield, A.R.A., correcting one or two misconceptions which he thinks may arise from a recently published letter of Mr. Alan Cole in regard to State-aided art training in England :—

Mr. Cole suggests (says Mr. Blomfield) that the aim of reformers is to induce the Government to enter "the domains of our architects, our builders, our upholsterers, our glass and pottery manufacturers, dictating standards of taste and achievement to them and organising and protecting factories for such things."

Mr. Cole must surely know that the aim of those who are seriously concerned about the condition of State-aided training in England is nothing of the sort. What artists object to in our present methods of training is that so much of it is make-believe. What they want to do is to stop playing with the crafts and get to the real thing, and what they contend for in State-aided training in the industrial arts is not that workshops should be established *ad hoc*, but that all these crafts should be taught in connection with existing factories and workshops, and should not be taught as a mere matter of design on paper. This is a totally different position from that put into our mouths by Mr. Cole.

Mr. Cole's history is not quite accurate as to Francis I., Henry II., and Catherine de Medicis, and the example that I gave from Colbert's reorganisation of the art of France was only intended to show that that great statesman fully realised that training in design and in process must go hand-in-hand and that the divorce of the training school (even if they be "fine, well-built, well-equipped institutions for art training," as Mr. Cole puts it, and quite unrelated as I put it) from the workshop and the factory can only lead to disaster in industrial art. Great play has been made with certain alleged errors in the statistics used by the Departmental Committee on the Royal College. Even if those figures were erroneous, the case for reform and development would not be materially affected, for the ominous facts remain that there are a great many more artists about than can find employment, that the attempt to bring the manufacturer and State-trained designer into touch has in the main failed, and that the average of work sent up year by year from the art schools to the National Competition is lamentably low. Arguments based on the very attractive little exhibitions annually given of selected works from the National Competition are beside the point, because they show only the best and not the interminable waste of inadequate work which lies below. That this should be the result of all the effort and all the expenditure of the State is not the fault of the art masters, still less of the Board of Education, but the fault of an ill-considered system never thoroughly thought out or organised on any clear logical basis; and what is aimed at is not the total upheaval of the present system, but its intelligent reorganisation and development on practical lines. I would remind Mr. Cole, who is a little unkind to the Standing Committee at Whitehall, that artists do, after all, know their own business of the arts, and that if they do not, certainly nobody else does.

As to the Royal College of Art, with the exception of his comparison with the Ecole des Beaux Arts, to which it bears little or no resemblance, I accept all that Mr. Cole says as to its great opportunities. My only criticism is that such scanty justice is done to those opportunities, and that, again, through no fault of its able and devoted staff; in spite of its unrivalled advantages of position and resource, the work of the Royal

College is in the main limited to the manufacture of art masters, instead of being, as it should be, a great national centre of training for all the most promising young artists of the country.

The Danger to St. Paul's: Wren's Problem and Method.

Mr. Macartney's Paper under the above heading in *The Times* of the 1st February forms so lucid and comprehensive a summary of the history of the fabric of St. Paul's, and of the dangers which threaten the structure, that it is thought worth while to reprint it here. It will serve as a useful appendix to Mr. Macartney's Paper, "The Present Condition of St. Paul's Cathedral," read before the Institute in November 1907 [JOURNAL, 23rd Nov. 1907].

Wren, in a memorial which he presented to the Bishop of Rochester, relating to the restoration of Westminster Abbey in 1713, gave in a few words what I cannot but think represents his considered and mature opinion on the subject of architecture. He writes: "It is by due consideration of the static principles, and the right poising of the weights of the butments to the arches, that good architecture depends: and the butments ought to have equal gravity on both sides." He was by this time eighty-one years old, and had been practising as an architect for over fifty years. St. Paul's was then nearly completed and he had seen all his work actually finished, so that the words quoted above may be taken as his last word on the subject. One cannot help wondering whether he did not feel considerable doubts about the foundations of St. Paul's, knowing as he did that he had imposed a greater weight on the soil upon which he built than had the builders of the Abbey upon the soil on which they had raised their structure.

Of architectural training, as we understand it at the present day, Wren appears to have had none: nor, indeed, except for a short visit to Paris in 1665, did he have the advantage of foreign travel like Inigo Jones, his predecessor. During his stay in Paris, however, he was very industrious, every day visiting the Louvre, which was then in course of erection. Wren was precocious as a youth, but his bent was not towards art. Mathematics engrossed his attention, and afterwards astronomy, and physical experiments always seem to have had a strange fascination for him. He was a brilliant academic success, being Professor of Astronomy at Gresham College, London, a post which he resigned on becoming Savilian Professor of Astronomy at Oxford. However little he knew of architecture, his knowledge of statics would no doubt make up for some deficiency in the field of construction. His early commissions to carry out works in architecture, such as Pembroke College Chapel, Cambridge, and the Sheldonian Theatre at Oxford, were most likely obtained through family influence, his father being Dean of Windsor, and his uncle Bishop of Ely. Possibly the sufferings of these loyal Churchmen during the Commonwealth and the influence of his devoted friend, Evelyn, prevailed on Charles II. to create a special post for him—that of assistant to the Surveyor-General. In this new capacity he was called upon at once to give his advice about the repairing of old St. Paul's. Very little work, however, was done before the fabric was rendered much more ruinous by the Great Fire of 1666. It is clear that his practical sense told him that the patching up of the old cathedral would be a waste of money. When at last it was decided to rebuild St. Paul's, an opportunity was afforded him of accomplishing his long-cherished desire to build a dome. He evidently had some difficulty with regard to this feature; for he says, "Among all the compostures of the ancients, we find no cupolas raised above the necessary loading of the hemisphere," as in the case of the Pantheon and "Sancta Sophia"; but in deference to the general taste of the time, which had been accustomed to nothing but steeples, he concluded that it should be raised to a remarkable altitude. This may explain the extraordinary erection he proposed to add height to the depressed dome of the "warrant" design.

For St. Paul's Wren set himself to devise a dome of an unusual type, poising and counter-poising his weights and thrusts till he achieved one of the greatest marvels of building construction.

THE DOME AND FOUNDATIONS.

There are three cardinal points which have to be considered in relation to the dome—construction, the materials employed, and the soil beneath the fabric. As regards the first, the entire weight of the dome rests on eight piers, which, vast as they look, are in reality much smaller in proportion than those of St. Peter's at Rome. Thirty-two thousand tons are supported by eight piers. This means that each square foot is subjected to a pressure of thirteen tons at the level of the springing of the arches, a load somewhat beyond that considered safe in the practice of modern engineering; but, if we come lower to where the piers rest on the potters' earth, we find that owing to the spread of the foundations, each foot of the soil is subjected to a pressure of 5·68 tons per foot, still encroaching upon the margin of safety recognised by engineers to-day. Wren was, however, consistent with regard to his scientific conception of building; he writes: "If the Butment be more than enough, 'tis an idle expense of Materialls; if too little it (the Arch) will fall." True to his convictions, he cut down his materials as far as he dared, in order to avoid superfluity. Had he spread the footings in the foundations of the dome in conformity with modern ideas, those subsequently in charge of the safety of the cathedral would have been saved much anxiety.

The second point is the material employed. Wren had a truly British contempt for foreign articles, especially stone and timber. After examining the enormous mass of *débris* which covered the whole churchyard, he found that the Portland stone used by Inigo Jones had suffered more from the fire than the Caen stone which, he said, was "more beautiful than durable." The Kentish rag-stone he sold to pave the London streets. Portland stone does not seem to have been employed to any great extent before Inigo Jones built the West Portico of St. Paul's; and with this he also refaced both the inside and the outside of the Nave and the two transepts. Portland stone and Roche Abbey stone from Yorkshire were the favourites of Wren. A stone of a somewhat similar character to the latter—namely, Bolsover Moor—was selected by the Commissioners for the new Houses of Parliament, but it was not used.

Economy had to be studied; and, although 43,000 tons of rubbish were carted away from the site of St. Paul's, some of which was used in the rebuilding of the City churches, much was worked into the structure of St. Paul's in places not exposed to the weather. It is evident that Wren had great trouble in providing an adequate supply of stone, owing to the difficulty of carriage. He was compelled to use only sea-borne

stone from Portland, and Beer, in Devonshire, the transport of which in those days was dependent on fair winds to ensure speedy arrival at Paul's Wharf and Redriffe (Ratcliff). To make up for deficiencies due to delays Wren was forced to use Burford, now generally known as Taynton stone, and more of the Caen stone from old St. Paul's than would otherwise have been the case. Unfortunately some of the latter has got into the construction of the drum of the dome, where it can be identified by the Norman chiselling. Unable to stand the pressure, it has been crushed. Wren optimistically thought that if this stone, which he considered "more beautiful than durable," was not exposed to the air and to the deleterious effect of sea-coal smoke, it would not deteriorate; but the London atmosphere is insidious, and has reached and attacked the most hidden recesses of the cathedral with its corrosive influence.

When the augmentation of the height of the building was decided upon, increasing constructional difficulties, owing to added weight, presented themselves; and although Wren believed that the same ground, which had supported the old cathedral with its lofty tower and spire, measuring together 530 feet, would carry the new, experience tells us that he overrated the supporting power of the soil. We have Wren's own statement, as well as that of his son, and also the evidence given by the trial pits sunk in recent years, that the foundations of the cathedral rest on potters' earth from 4 feet to 6 feet deep. On this he rested his footings, with the exception of those at the east end, where he came on ground which, as he shrewdly points out, had been robbed of the potters' earth from very early times, and, moreover, met with the foundations of monastic houses and nine wells. We find that at this point he went down some 18 feet to 25 feet with a great spread of footings, two or three times greater than had been employed in the other parts of the cathedral, which very clearly shows that he mistrusted the supporting power of the soil on the eastern side of the building.

The dome settled before the side walls of the cathedral were finished, as we can see from the distortion of the windows, the inclination of horizontal mouldings, and the diminishing courses of masonry used by Wren to bring the level of the parapet true. Moreover, it is stated in the Memoirs of the Strongs that Edward Strong was employed to make good blemishes in the piers and arches which were caused by the unequal settlement, due to differences in the supporting power of the soils. Forty tons of Portland stone, it is stated, were employed to repair the south-eastern pier during the construction of the building.

THE PRESENT DANGERS.

If Wren had been able, as he desired, to make use only of Portland stone, there would be less reason to-day to fear for the safety of St. Paul's. It must be obvious from the enormous weight that the soil upon which the cathedral is based is liable to very considerable alteration from any subterranean disturbance; and against this it is most necessary to guard. It is probable that the subsoil is fed by currents of water which might easily be diverted by the construction of large underground workings, and which may already be affected by the expansion of pavement and improved drainage in the City. The weakness due to the employment of Caen stone may, it is hoped, be overcome; but nothing can prevent the thin layer of pot earth from cracking or settling if a scour from the underlying sand is brought about. Doubtless the slight movements that have taken place, the falling outwards (to the south) of the western tower and the south transept, are mainly due to the excavations made for the deep basements of the houses on that side. If the foundations of the cathedral had a greater spread every portion of the building would be safer; but Wren, eminent man of science as he was, did not foresee the burrowing propensities of future generations, and made no provision to safeguard his masterpiece from the attacks of human moles.

Sir Francis Fox in his able report has drawn attention, though with less detail, to the facts here set out. He has also pointed out the possible danger due to removal of enormous quantities of earth necessary in the construction of the proposed subway, if the promoters thereof succeed in getting their Bill through Parliament, and using the full powers therein contained. The excavations will remove from 25,000 to 30,000 cubic yards of earth, an amount, roughly, equal to the tonnage of a first-class modern liner; and this removal cannot but tend to destroy the equilibrium upon which stability depends.

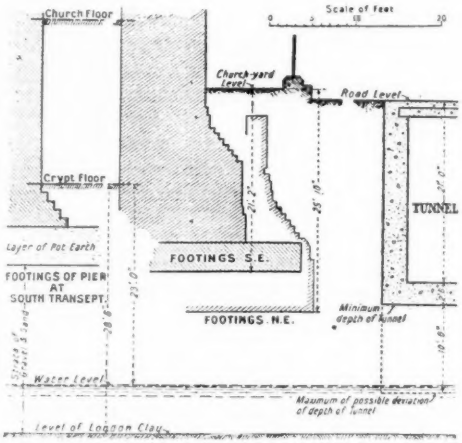


DIAGRAM SHOWING THE FOOTINGS OF THE PIERS OF THE DOME AND THOSE OF THE EAST END, THE DEPTH AT WHICH THE TRAMWAY MIGHT BE CONSTRUCTED, AND THE WATER-BEARING STRATA ABOVE THE LONDON CLAY.

The report emphasises another danger that may assail the structure, in addition to that which menaces the delicately-poised dome with its great weight bearing on foundations which in all probability will subside—namely, vibration. The effect of vibration on a large building has not yet been made a subject of searching inquiry; but doubtless it has an evil effect, which will increase in violence with the number and size of the vehicles causing it.

If the projected excavations were carried out, then to take the foundations down to the level of the London clay would seem to be the only possible method of averting disaster; and this in itself would be an extremely hazardous and expensive process.

Work such as grouting with fine liquid cement under pressure is being carried out, and will strengthen the building; but there are inherent weaknesses in it which can never be remedied. The motto, "Quieta non movere," should be writ large over the area of St. Paul's churchyard.

The Admiralty Arch Approach.

In the House of Commons on the 30th January:

Mr. Bird, on behalf of Sir W. Bull, asked Mr. Benn, as representing the First Commissioner of Works, if he would state why the Government had been advised to sell the vacant land at the entrance to the Mall, in Cockspur Street, having regard to the fact that permanent buildings would be placed thereon and therefore preclude all chance of the Admiralty Arch having an approach to Trafalgar Square adequate to its position; and whether that meant that all idea of acquiring part of Drummond's Bank and the opposite corner had now been abandoned.

Mr. W. Benn: The land referred to belongs to the London County Council. I am informed that they have sold it, thereby precluding, as the hon. member rightly says, all chance of the construction of a worthy approach to the Admiralty Arch.

Sir Aston Webb, R.A., in a letter to *The Times* of the 4th inst., says:—

I think it should be known that in the summer of 1911, Mr. George Drummond, being anxious to see a worthy completion of the scheme, called upon me and made a most generous offer to submit to an alteration to the end of Messrs. Drummond's Bank, and give up the land thus liberated free of cost, if the County Council would make the alteration and set back the buildings on the other side of the roadway. This offer, I understand, was declined by a Committee of the Council, and thus what was apparently a great opportunity was lost.

The New Delhi: Appointment of Government Architects.

The Government of India have decided to entrust the preparation of designs for Government House and another important building in the new Imperial capital at Delhi to Mr. E. L. Lutyens [*F.*] and Mr. Herbert Baker [*F.*], who are to be associated for the purpose on equal terms. It is also contemplated that Messrs. Lutyens and Baker should assist the Indian Government in the selection of designs for other public buildings at Delhi and act generally as its principal architectural advisers as regards the new capital. To ensure that the designs are adapted to climatic conditions, Indian sentiment, and official requirements, and to furnish advice as to Indian materials and the employment where possible of Indian craftsmen, it is proposed to give Messrs. Lutyens and Baker the assistance of Colonel Sir S. Swinton Jacob, K.C.I.E. [*Hon. A.*], who has recently retired from active work as engineer and architect to several important Native States of Rajputana. *The Times*, in a leading article on the 29th January, says:—

The appointments announced should give satisfaction everywhere. . . . Mr. Lutyens and Mr. Baker are, in our opinion, admirably qualified for this magnificent task. They both have genius, they both have their best years still before them, and they were trained in the same school. Mr. Baker's ideas for the new capital [briefly summarised in the JOURNAL for 19th October last] are known to represent Mr. Lutyens' own view. The usual difficulties of collaboration are therefore not likely to arise in this particular case. The association with them of Sir Swinton Jacob as adviser on Indian conditions, materials, and crafts is also an excellent arrangement. Sir Swinton Jacob is the architect of many beautiful buildings in Rajputana in the Indo-Saracenic style, and he will bring to the service of his two principals a lifelong knowledge of Indian methods and skill. Mr. Lutyens and Mr. Baker are certain to desire to make the utmost of Indian models in working out their ideas, though those ideas will not, we are sure, be hampered by any servile regard for previous styles in India or elsewhere. Their duty is to build a capital truly representative of British rule; and that ideal cannot be attained either by transplanting wholesale a bygone European style or by slavishly reproducing an Indian one. It is significant that Mr. Baker has already created buildings of great beauty and character in South Africa, which are admirably suited to the light and climate, and which, while possessing always an individuality of their own, have absorbed in them many of the distinctive features of the Dutch architecture of his predecessors. That is the spirit in which, as we believe, both he and Mr. Lutyens will address themselves to this new opportunity—as great an opportunity as any architects have ever had. They cannot build new Delhi alone, but they can form the main ideas and set the key to which, we doubt not, much other talent will readily respond.

It is of interest to note that Mr. Baker and Mr. Lutyens as young men were together for a time in the office of Sir Ernest George (then Messrs. Ernest George and Peto)—Mr. Baker as assistant from 1886 to 1890, and Mr. Lutyens as improver in 1887 and 1888. Mr. Baker, who served his articles in the office of the late Arthur Baker [*F.*], of Kensington, was awarded the Ashpitel Prize in 1890, and started practice the following year in Cape Town.

In the House of Commons on the 30th January:

Mr. King, calling attention to the appointment, said that four distinct pledges had been broken: the report of the Town Planning Committee should be published; there should be some sort of competition in connection with the appointment of architects; the Consulting Architect to the Government of India should be asked for his advice, and the question of style should not be settled until after the report of the Town Planning Committee had been presented to the House.

Captain Murray urged that the plans should provide for a separate Council Chamber for the Imperial Legislative Council, detached from the Viceroy's quarters.

Mr. H. Baker (Financial Secretary to the War Office) said the promise he had made was simply an indication of the intention of the Secretary of State, and since then events had made it necessary to take an earlier decision. Early in January the Viceroy telegraphed a suggestion for the appointment of Mr. Lutyens and Mr. Baker. The latter gentleman was in South Africa, and it was necessary that he should return without delay. In a matter of this kind they were bound to consider the opinion of the Viceroy, who had taken the greatest interest in the subject, and upon whose judgment the Secretary of State relied. The Viceroy had expressed himself strongly in favour of an Indian style of architecture. The scope of the appointment of Mr. Lutyens and Mr. Baker was strictly limited to act as architects for Government House and one other important building. They would also have a general power to advise on the rest of the buildings. But with regard to the rest of the buildings, which were very numerous and varied, with the exception of

the two specific buildings mentioned, it was the present intention of the Secretary of State to allow competition to come in as far as possible, though there were obvious and great difficulties in the way of free and open competition. With regard to Captain Murray's question, he had nothing to add to the replies already given, but he assured him that although the two buildings referred to were to be brought under one roof, in every other respect they would be absolutely separate.

Fresco Painting at the Palace of Tiryns.

Mr. Noël Heaton, B.Sc., F.C.S., has presented the Institute with a copy of his Paper, reprinted from *Tiryns II.* (Athens, 1912), giving an account of his investigations into the nature and method of execution of specimens of painted plaster from the Palace of Tiryns. The Paper forms an interesting supplement to Mr. Heaton's Paper published in the JOURNAL of the 30th September 1911, in which he traces the development of the use of lime-plaster and fresco decoration from the earliest times to the second Late Minoan period. Mr. Heaton subjected to analysis a number of fragments of wall plaster from the Early and Later Palaces of Tiryns and of floor plaster and cement from the Later Palace. A comparison with the plaster from the second Palace of Knossos shows it to be practically identical in composition, pointing to the fact that the craftsmen of Tiryns worked on a tradition handed down from the Palace Period at Knossos. The method of preparing the wall surface differed, however, from that adopted at Knossos. The plaster at Knossos was uniformly fine in texture, and was laid on in two coats identical both in composition and structure, the second coat to receive the painting being nearly 1 cm. in thickness. At Tiryns the second coat seemed to be barely 2 mm. in thickness: it was much finer in texture than the main substance of the plaster, and could be removed from the latter by careful scraping with a knife, a distinct difference in hardness and texture being felt when the line of division was reached. With the exception of the green, the pigments are identical with those used in Crete during the Late Minoan period, and the colour schemes of the paintings are substantially the same. No green pigment was used in the frescoes at Knossos, a green colour being obtained when required by mixing blue and yellow. Mr. Heaton has no doubt that the painting was executed in true fresco, the pigments being painted on to the wet lime without the use of any medium except water, and fixed to the surface by being permeated with the soluble hydrate of lime and its subsequent conversion to the insoluble carbonate. Illustrations are given showing that the pigment has penetrated into the surface in a way that is only possible in fresco painting. Mr. Heaton considers that there is no room for doubt that the technique employed in painting was identical with that practised at Knossos in earlier times.

OBITUARY.

Frederick Thomas Reade [*Hon. A.*].

FREDERICK THOMAS READE was born at Liverpool in 1833, and was apprenticed in 1848 to Messrs. N. and M. Scott, Engineers and Iron Founders in Birkenhead, whose works have since been absorbed into the great shipbuilding works of Messrs. Cammell Laird & Co. He was afterwards engaged as engineering draughtsman in the office of Mr. James Hodgson, a prominent naval architect in Liverpool, and one of the pioneers in iron construction of sailing-ships and steamers. In this office, he was associated with the late Callcott Reilly, afterwards Professor of Mathematics at the Royal Indian Engineering Staff College at Cooper's Hill, with whom he maintained a lifelong friendship and whose eminent mathematical attainments and example greatly influenced Mr. Reade's career. Thus his preliminary training was a useful blending of practice and theory, which enabled him in after life easily to win the entire confidence of those who sought his advice.

He migrated to London in 1856, and soon after entered the drawing office of Messrs. Lawrence Bros., of the City Iron Works, Hoxton, where he remained for nearly twenty years. About 1875 he commenced independent practice as a Consulting Engineer, chiefly in connection with the iron and steel construction of buildings, and in this capacity he was employed by many eminent architects. In conjunction with the City architects, Sir Horace Jones and Mr. Alex. Peebles, he designed the iron construction of the Corporation Markets in Smithfield, and the Guildhall Council Chamber. He assisted the former of these gentlemen in working out the scheme for the Tower Bridge, which formed the basis of the Corporation's application to Parliament for their Act. In 1884 he personally conducted a Committee of the Corporation to inspect a number of the most important opening bridges in Scotland and on the Continent, and his subsequent report confirmed the Corporation in adopting the "bascule" pattern of bridge. He designed the method and apparatus by which the Wellington Statue was lowered intact from the top of the arch on Constitution Hill.

In 1877 he was elected one of the first Honorary Associates of the Institute, and in 1889 he read a Paper before the Institute on "The Application of Iron and Steel to Building Purposes." In 1883 he became an Associate Member of the Institution of Civil Engineers. Later he took into partnership Mr. H. Reilly, a son of his old friend, and together they designed and superintended the iron and steel construction of many important buildings. Among them may be mentioned the Scarborough Spa and Nottingham Guildhall for Messrs. Verity & Hunt; the Haymarket Stores and extension of the Criterion for Mr. T. Verity; the Gloucester Guildhall for Mr. G. H. Hunt; the Imperial In-

stitute, the Royal English Opera House, the P. & O. Offices, &c., for Mr. T. E. Collcutt; the Birkbeck Bank Buildings for Mr. T. E. Knightley; the Tate Gallery, the Trocadero Restaurant, Claridge's Hotel, Spurgeon's Tabernacle, the Dental Hospital, &c. &c.; several buildings in Liverpool for Mr. Edmund Kirby, and a number of buildings in Hong Kong, principally "godowns," for Messrs. Leigh & Orange.

His partner having broken down in health and become quite incapacitated, Mr. Reade disposed of the practice and retired in 1901, taking advantage of his well-earned leisure to make a twelve months' tour in China and Japan. Since then he has served on the Science Standing Committee of the Institute, and represented the Institute on the Engineering Standards Committee, where his knowledge and experience were of great value and assistance. He was fond of travel and visited many foreign countries. Only last spring, at the age of seventy-nine, he went off alone and spent several weeks in Portugal.

He died, after a short illness, on the 16th January at his chambers in Great Ormonde Street, and his funeral on the 20th January at Golder's Green Crematorium was attended by many intimate and devoted friends.

ROB. GRIGGS [*.I.*].

Lieut.-Colonel Francis Robert Newton Haswell, V.D., of North Shields and Monkseaton [*Fellow*, elected 1872], died on the 18th November 1912, at the age of seventy-eight. Born at Southwark, the son of the Rev. Partis Haswell, he was educated at Taunton, and received his professional training in the office of Mr. John Middleton, architect, of Darlington, with whom he was placed as pupil in 1849. He started in independent practice in North Shields in 1856, and soon laid the foundations of an extensive business, his early work consisting principally of church, chapel, and school buildings. Among them may be mentioned the Methodist New Connexion Chapels at Wallsend and S. Shields; Wesleyan Methodist Chapels at Gateshead (with schools), Shieldfield (Newcastle-on-Tyne), Corbridge, Sacristan, Tynemouth, Jarrow, South Bank, Blyth, Bishop Auckland, Bensham, Felton, Rowlands Gill, West Norwood, and Wesleyan Memorial Church, N. Shields; St. Nicholas' Chapel, Topsham, Devon; Holy Trinity Church, N. Shields; Restoration of Ronaldkirk Church; Lutheran Church, N. Shields; Egglestone Parish Church, Teesdale; Restoration of Barnard Castle Parish Church, and of the Choir for Trinity College, Cambridge, Ninebanke Parish Church, Cemetery Chapel and Lodge, Barnard Castle; Chapels and Lodge, Newsham and South Blythe Cemetery. He was the architect of schools at East Jarrow, Earsdon, St. Peter's National Schools, N. Shields, Throckley Undenominational School, the Tynemouth School Board Western Schools, Eastern Schools, Cullercoats Boys', Percy Main, Chirton, &c. He was architect to the School Board of Tynemouth from 1878 to 1903, and was at one time joint architect to the Newcastle-upon-Tyne School Board. In 1871 he designed and carried out the Benton Railway Station for the Blyth and Tyne Railway Company; in 1888 the Tynemouth Victoria Jubilee Infirmary; and in 1902 the Conservative Club, N. Shields. He also carried out many residences in the districts of N. Shields and the two northern counties, as well as the dry docks at N. and S. Shields. Col. Haswell was a promoter of the volunteer movement in Tynemouth, and was one of the original members of the Tynemouth Artillery Volunteers, reputed the premier corps of the country. He received his V.D. decoration in 1891 and retired in 1895, retaining his rank and permission to wear his uniform. He was a member of the Council of the Northumberland and Durham Archæological Society since its foundation, and was Corresponding Secretary to the Society for the Preservation of Ancient Monuments.

John Henry Eastwood, who died on the 24th January, at the age of seventy, was elected Associate of the Institute in 1881. He served his articles with Mr. M. C. W. Horne, of Guildford Street, London, and was afterwards Chief Assistant to Professor Aitchison, R.A., and later to Mr. F. P. Cockerell. His chief works are: St. Anne's Cathedral, Leeds; Church of St. Joseph, Bridgford, Nottingham; Church of the Sacred Heart, Hemsworth; additions to the Church of SS. Mary and Gregory the Great, Barnet; Church of the Guardian Angels, Mile End; St. Anne's Schools, Woodhouse Square, Leeds; altar of canopied work for St. Barnabas' Cathedral, Nottingham; Roman Catholic Schools, Moorthorpe, etc.

THE EXAMINATIONS.

The Final: Alternative Problems in Design.

The Board of Architectural Education have approved the designs submitted as Testimonies of Study under the new regulations by the undermentioned students:—

Subject VI. (*a*): A COLONNADED SCREEN.—Cedric Ripley, R. S. Wilshere, W. E. Woodin, A. H. Owen, A. L. Freaker, E. F. Bothwell, L. S. Henshall, A. F. Kaltenbach, P. G. White, F. Williamson, D. H. Walker, Mary Shewen, E. Hasmann, R. Duckett, W. E. Foale, E. A. L. Martyn, J. O. Thompson, E. N. Frankland-Bell, P. T. Wilsden, E. Gee, A. E. Davidson, A. E. Stott, H. E. Rooley, B. N. Weekes, W. H. Thompson, R. A. Walter, J. O. Cheadle, F. Ratcliff.

Subject VI. (*b*): A FIRE-RESISTING LOCK-UP WAREHOUSE.—O. Newbold, R. A. Barber, A. R. Shibley, G. Davidson, R. S. Dixon, E. R. F. Cole, P. D. Bennett, B. Newboult, A. Wilson, S. G. Soper, J. A. Clarke, F. O. Lawrence.

COMPETITIONS.

Municipal Offices Competition, Barnet.
Public Hall Competition, Horbury.

The Competitions Committee request Members and Licentiates not to take part in the above competitions until a further announcement is made that the conditions have been brought into conformity with the Institute "Regulations." The Committee also request competitors to return their copies of the conditions immediately to the promoters.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session 1912-13, held Monday, 3rd February 1913, at 8 p.m.—Present: Mr. Reginald Blomfield, A.R.A., *President*, in the chair; 34 Fellows (including 12 members of the Council), 42 Associates (including 2 members of the Council), 8 Licentiates, and numerous Students and visitors—the Minutes of the Meeting held 20th January 1913, having been published in the JOURNAL, were taken as read and signed as correct.

Mr. E. Guy Dawber, *Vice-President*, acting for the Hon. Secretary, announced the decease of John Henry Eastwood, *Associate*, and it was resolved that a vote of sympathy and condolence be passed to his near relatives.

The following Members and Licentiates attending for the first time since their election were formally admitted by the President—viz. William Haywood and Oswald Partridge Milne, *Fellows*; Herbert John Brownlee, Francis Renton Barry, jun., John Alfred Cheston, Thomas Stanley Hosking, Frederick William Moore, John Charles Robinson, and Philip Edward Webb, *Associates*; Victor Augustine Flower, *Licentiate*.

Mr. E. Guy Dawber announced that the Council proposed to submit to His Majesty the King the name of Mr. Reginald Blomfield, A.R.A., as a fit recipient of the Royal Gold Medal for 1913, in recognition of his executed works as an architect, and his distinguished contributions to the literature of architecture.

The Secretary announced that the following candidates, being found by the Council eligible under the Charter and By-laws, had been nominated for election:—As FELLOWS (11): George Wilfred Allsop [*A.*], Auckland, N.Z.; Edward Greenop, P.A.S.I. [*A.*]; John Albert Gill-Knight [*A.*]; Alexander George Robertson Mackenzie [*A.*]; George Oakley Scorer [*A.*]; Reginald Henry Spalding [*A.*]; Arthur James Stratton, F.S.A. [*A.*]; Granville Edward Stewart Streatfeild [*Licentiate*, passed the Examination qualifying for Fellowship July 1912]; William John Walford [*A.*]; Charles Frederick Ward, Assoc. Inst.C.E. [*A.*], Newport, Mon.; George Henry Widdows [*A.*], Derby. As ASSOCIATES (40): Albert Robert Allen-Lodge, F.S.I.; Percy Maguire Andrews; John William Barrow; Henry Joseph Blenkinsopp, Selby, Yorks; Frank Asquith Brewerton, Manchester; Leonard Holcombe Bucknell; Arthur Stanley George Butler; David John Chisholm; Leopold Edmund Cole; Archibald Cooper, Newbury; Ralph Henry Dewhirst; Thomas Oliphant Foster; Edmund Herbert Gibson, Harrogate; Hugh Andrew Gold; Charles Black Gordon; John Garfield Hinton, Winchester; T. Frederick Ingram; Samuel Douglas Meadows; Stanley Wayman Milburn, Sunderland; Harold Edward Moore; Colin Hay Murray, Eastbourne; William Godfrey Newton; Alex. Pease, Worthing; Rees Phillips; Richard Mountford Pigott; Ernest Alexander Rahles Rahbula; Claud Boileau Reid; Thomas Leonard Roberts, Sunningdale; Harold Seymore Scott, Birmingham; Henry Solomon, Winchfield, Hants; William James Stenner, Bristol; Basil Martin Sullivan; Sutherland-Graeme; William George Thoms, Nottingham; Sidney Stanley Waghorn; Charles Percival Walgate; Harry William Weedon, Birmingham; Judah Weinberg; David Williams, Salisbury; Stanley Hurst Williams, Sheffield.

The President delivered an ADDRESS TO STUDENTS, and Mr. W. Curtis Green [*F.*] read a CRITICISM OF THE DESIGNS AND DRAWINGS submitted for the Prizes and Studentships for the current year.

The Presentation of Prizes was made by the President as follows:—

INSTITUTE SILVER MEDAL (ESSAYS) AND TWENTY-FIVE GUINEAS.
The Medal and cheque for £26 5*s.* to Mr. Wm. James Davies.
Certificates of Hon. Mention and cheque for £5 5*s.* to Messrs. Martin Shaw Briggs and C. Percival Walgate respectively.

INSTITUTE SILVER MEDAL (MEASURED DRAWINGS) AND TEN GUINEAS.
The Medal and cheque for £10 10*s.* to Mr. H. C. Mason.
Certificates of Hon. Mention to Messrs. W. L. B. Leech, Gordon Hemm, and B. P. Gaymer.

SOANE MEDALLION AND £100.
The Medallion to Mr. James M. Whitelaw.
Certificates of Hon. Mention to Messrs. H. Chalton Bradshaw and Robert W. Cable.

OWEN JONES STUDENTSHIP (£100).
Mr. Wm. Harvey introduced as the winner of the Studentship.
Certificates of Hon. Mention to Messrs. H. P. Huggill, Ivor Beaumont, and Walter M. Keesey.

PUGIN STUDENTSHIP (SILVER MEDAL AND £40).
Mr. Wm. Paterson introduced as the winner of the Studentship.
Certificates of Hon. Mention to Messrs. Joseph Hill and F. E. Howard.

TITE CERTIFICATE AND £30.
Certificate to Mr. Cyril A. Farey as winner of the Prize.
Certificate of Hon. Mention to Mr. Bryan Watson.

ARTHUR CATES PRIZE (FORTY GUINEAS).
Cheque for £42 to Mr. Charles F. Batt as winner of the Prize.

GODWIN BURSARY (£65).
Mr. Charles Holden introduced as winner of the Bursary.

HENRY SAXON SNELL PRIZE (£60).
Mr. Vincent Hooper introduced as the winner of the Prize.

PUGIN STUDENTSHIP, 1912.
Pugin Silver Medal and cheque for £20 to Mr. James Macgregor.

OWEN JONES STUDENTSHIP, 1911.
Cheque for £50 to Mr. A. W. Bellis.

OWEN JONES STUDENTSHIP, 1910.
Cheque for £10 10*s.* to Mr. W. O. Miller.

On the motion of Mr. Frank Dicksee, R.A. [*Hon. A.*], seconded by Sir L. A. Selby-Bigge, K.C.B., a vote of thanks to the President and Mr. Curtis Green for their Addresses was carried by acclamation.

The proceedings then closed and the Meeting separated at 10.25 p.m.